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June, 1978

THE JOURNAL OF THE Arkansas MEDICAL SOCIETY

Vol. 75 No. 1

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NEWS—Our readers are requested to send in items of news, also marked copies of newspapers containing matter of interest to the membership.

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GEORGE F. WYNNE, M.D.

Warren

President

Arkansas Medical Society

1978-79

PROCEEDINGS

102nd Annual Session

ARKANSAS MEDICAL SOCIETY

Hot Springs

April 16-19, 1978

**First Meeting
HOUSE OF DELEGATES**

The first meeting of the House of Delegates of the Arkansas Medical Society during the 1978 convention was called to order at 1:30 P.M. by Speaker Amail Chudy.

The Executive Vice President, C. C. Long, called the roll of delegates. The following delegates, officers, and members seated as delegates by action of the House were present:

ARKANSAS, John M. Hestir; BENTON, Richard Pearson, Michael Reese; BOONE, Charles A. Ledbetter; BRADLEY, George F. Wynne; CHICOT, John R. Russell; CLARK, R. Jerry Mann; CLEBURNE, Nathan L. Poff; CRAIGHEAD-POINSETT, James M. Robinette, Frank M. James, Joe Verser; CRAWFORD, Millard C. Edds; CRITTENDEN, Milton D. Deneke; DALLAS, John Delamore; DREW, Paul A. Wallick; FAULKNER, Jimmie J. Magie; GARLAND, Gaither C. Johnston, Ronald J. Bracken, James L. Gardner; GREENE-CLAY, Richard O. Martin, J. Larry Lawson; HEMPSTEAD, Lowell Harris; HOT SPRING, Robert H. White; HOWARD-PIKE, U. Lee Smith; INDEPENDENCE, Jim E. Lytle; JEFFERSON, Banks Blackwell, L. G. Langston, George V. Roberson; JOHNSON, Boyce W. West; LAWRENCE, Ralph Joseph; LEE, Dwight Gray; MILLER, Donald L. Duncan; MISSISSIPPI, Eugene Shaneyfelt; MONROE, N. C. David; OUACHITA, Cal Sanders; PHILLIPS, Robert D. Miller, Jr.; POLK, David D. Fried; POPE, James M. Kolb, Jr.; PULASKI, Edgar Easley, James R. Weber, Paul Cornell, Frank Westerfield, George Mitchell,

William G. Reese, J. Mayne Parker, Harold Purdy, Fred Kittler, John McCollough Smith, William N. Jones, Curry Bradburn, Raymond Biondo, Ben Saltzman, Thomas A. Bruce, Carl Raque, Alvah Nelson, Henry Thomas, Gordon Oates, Guy Farris, T. Duel Brown; SEBASTIAN, Ken Lilly, Kenneth Wallace, A. C. Bradford, W. P. Phillips, Carl Williams, Annette Landrum, Morton Wilson; ST. FRANCIS, Charles E. Crawley; UNION, George Warren; VAN BUREN, John A. Hall; WASHINGTON, Joe C. Parker, Lee B. Parker, John W. Vinzant; WHITE, James H. Golleher; YELL, James L. Maupin; COUNCILORS, John B. Kirkley, M. J. Osborne, John E. Bell, Paul Gray, L. J. P. Bell, John P. Burge, Raymond Irwin, J. B. Jameson, C. Lynn Harris, A. E. Andrews, Robert F. McCrary, W. Ray Jouett, Rhys A. Williams, Morris M. Henry, Kemal Kutait, Charles F. Wilkins; PRESIDENT, W. Payton Kolb; PRESIDENT-ELECT, George F. Wynne; FIRST VICE PRESIDENT, Ken Lilly; SPEAKER OF THE HOUSE, Amail Chudy; VICE SPEAKER, Asa Crow; SECRETARY, Elvin Shuffield; TREASURER, Kenneth R. Duzan; PAST PRESIDENTS, T. Duel Brown, Joe Verser, H. W. Thomas, Ross Fowler, Jack W. Kennedy, Stanley Applegate, Robert Watson, John P. Wood, Ben N. Saltzman, T. E. Townsend, and A. S. Koenig, Jr.

Kemal Kutait, Chairman of the Credentials Committee, reported that sixty-one delegates were registered and that a quorum was present.

Upon motion of Warren, the House approved minutes of the 101st annual meeting as published in the June 1977 issue of the Journal of the

Arkansas Medical Society. By motion of Warren, the minutes of the November 1977 meeting of the House of Delegates were approved as published in the January 1978 issue of the Journal.

Vice Speaker Crow introduced Mrs. Manuel A. Bergnes of Norristown, Pennsylvania, president-elect of the American Medical Association Auxiliary; Mrs. Kemal Kutait of Fort Smith, Arkansas Medical Society Auxiliary president; and Mrs. Walter Mizell of Benton, Arkansas Medical Society Auxiliary president-elect. Each individual addressed the House briefly regarding her respective organization.

Speaker Chudy introduced W. Payton Kolb for his President's Address and the House gave President Kolb a standing vote of thanks. Dr. Kolb's address appears following minutes of the first meeting of the House.

Vice Speaker Crow introduced W. P. Phillips, chairman of the Arkansas Medical Political Action Committee. Dr. Phillips reported to the House on activities of Ark-PAC and encouraged physician participation in the committee work.

Vice Speaker Crow introduced to the House Mrs. Deno Pappas, Chairman of the Arkansas Medical Society Auxiliary's AMA-ERF Committee, and Thomas A. Bruce, Dean of the University of Arkansas College of Medicine. On behalf of the American Medical Association Education and Research Foundation, Mrs. Pappas presented to Dean Bruce an unrestricted \$15,490 grant to the college.

Vice Speaker Crow called on A. S. Koenig, Chairman of the Constitutional Revisions Committee, who presented the proposed revision of the Constitution and By-Laws for final consideration by the House and moved adoption. The proposal was approved unanimously by the House as presented.

Chairman of the Council John P. Burge was called on by Speaker Chudy to present a supplemental report of the Council. Chairman Burge presented the following report of action of the Council since publication of the annual report in the March issue of the Journal:

REPORT OF THE COUNCIL

The Council met on April 2, 1978, and transacted business as follows:

1. Approved the annual report of audit of Society records;
2. Accepted a report from Ray Jouett, Chairman of the Ad Hoc Committee to Study the Health

Department, on a complaint made by the Union County Medical Society.

3. Voted to obtain professional help to assist in the campaign to get the initiated petition on the general election ballot. It was generally agreed that the Executive Committee would determine the appropriate manner of implementation and report back to the Council at the Annual Session.
4. Voted to continue to contribute tuition for two individuals for the Aldersgate Medical Camp.
5. Voted to send a letter of appreciation to James Dennis for his service to the State during his tenure as Chancellor of the University of Arkansas for Medical Sciences. The Council also voted to recommend to the Board of Trustees of the University that a physician be selected to succeed Dr. Dennis as Chancellor and that a search committee including a Medical Society representative be appointed.
6. Directed that the headquarters office staff prepare a quarterly financial statement for the information of the Council.

Councilor John Kirkley questioned the minutes of the Council meeting held in February 1978, noting that there was no reference to a minority report which he presented after presenting the majority report of the Study Committee he headed on the Feasibility of having Little Rock-based staffing subsidiary to the Fort Smith office. He read the following as his minority report:

"As Chairman of this Committee, I feel I have an opportunity to air some thoughts I have had for a long time. The problem of the Legislature coming up with a new wrinkle or law unknown to us ahead of time, or a Federal Bureau making a decision detrimental to us would be lessened immeasurably if the home office of the Medical Society was in the same town as the home office of the State Government or the District office of the Federal Government. That is, there is an overwhelming need to work toward moving the state headquarters of the Arkansas Medical Society to Little Rock. Gentlemen, I contend that we need to be where the action is and that place is Little Rock. In view of this, I move that the Council of the Society expeditiously undertake to move the office of the Society from Fort Smith to Little Rock."

There was discussion by members of the House as to whether the remarks constituted a minority

THE PRESIDENT'S BANQUET



Dr. W. Payton Kolb, president of the Society for 1977-78, welcomes members to the annual banquet on Tuesday evening.



The Onachi-Tones, directed by Mrs. Mary Shambarger, entertained at the President's banquet on Tuesday.

report inasmuch as a different issue was involved; some delegates felt the report would have to be considered under new business. Upon motion of William G. Reese of Pulaski County, the House voted to accept the remarks as a minority report. Speaker Chudy referred the minority report to Reference Committee Number One for consideration with the Report of the Council.

Speaker Chudy asked for reports from committees. Elvin Shuffield presented the following report as chairman of the Medical Legislation Committee:

REPORT OF THE LEGISLATIVE COMMITTEE

Mr. Speaker, Officers, Ladies and Gentlemen of the House of Delegates and Guests: This is a so-called off year as far as the Legislature is concerned. I would like to bring to your attention one of the seats for the United States Senate which is open and for which there are five candidates.

There are five men running for United States Representative from the Second Congressional District. There is no incumbent in this race. In the Third District for United States Representative, there are three men in this race with John Paul Hammerschmidt being the incumbent. The Fourth United States District has five men in the race and there is no incumbent.

I would like to urge all of you to select a good man for each of these races and support him as strongly as you possibly can in order that we may have more friends in Washington.

As far as the Arkansas Senate is concerned, there are nine races and then there were ten senators whose terms expired at this time and they did not draw opponents.

Again, in these nine races, study these candidates carefully and support them as strongly as you can.

In the State House of Representatives, there will be forty-three races which is somewhat of a record. In these races, two optometrists are seeking reelection, one in the South Little Rock area and one out of Pine Bluff. Then in District 34, that is the Mountain Home area, an optometrist is running against the incumbent in that area.

The Democrat Primary is May 30, 1978, so it is of utmost importance that you get busy and try to select people who will serve for the best interest of our State, nationally and locally.

If you have any questions pertaining to the general political situation, I will be happy to try to answer them for you.

The report was referred by Speaker Chudy to Reference Committee Number Two.

The following items of new business were received by the headquarters office after publication of the March issue of the Journal but within the deadline for consideration by the House without vote of approval:

RESOLUTION FROM CRITTENDEN COUNTY

WHEREAS, there has been in the past a participating agreement by the members of this Society with and in the affairs of Arkansas Blue Cross-Blue Shield, and

WHEREAS, there has been no updating or modernization of this agreement for a long number of years, and

WHEREAS, there is now needed for uniformity and ease of filing of common insurance forms and office billing with diagnosis and procedure forms in modern efficient office practice, and

WHEREAS, Arkansas Blue Cross-Blue Shield has been totally resistive to this and other needed changes in the participating physicians' agreement,

THEN BE IT RESOLVED, that the Society instructs the Insurance Committee to poll and query the Arkansas State Medical Society members for their views and problems in this regard and actively and forcefully re-negotiate with Arkansas Blue Cross-Blue Shield a new agreement in accord with the views of the membership.

The Crittenden County Resolution was referred to Reference Committee Number One.

RESOLUTION FROM SEBASTIAN COUNTY

WHEREAS, recent changes of the Bureau of Health Insurance have reduced reimbursement provided Medicare/Medicaid beneficiaries for office calls and hospital visits by physicians to a level significantly below previously acceptable fees in Area 1 of Arkansas, and

WHEREAS, these changes are to be reviewed at an early time,

RESOLVED, by the Sebastian County Medical Society in meeting March 14, 1978, that the Arkansas Medical Society, through its officers and good offices, vigorously seek correction of this deplorable rollback, and

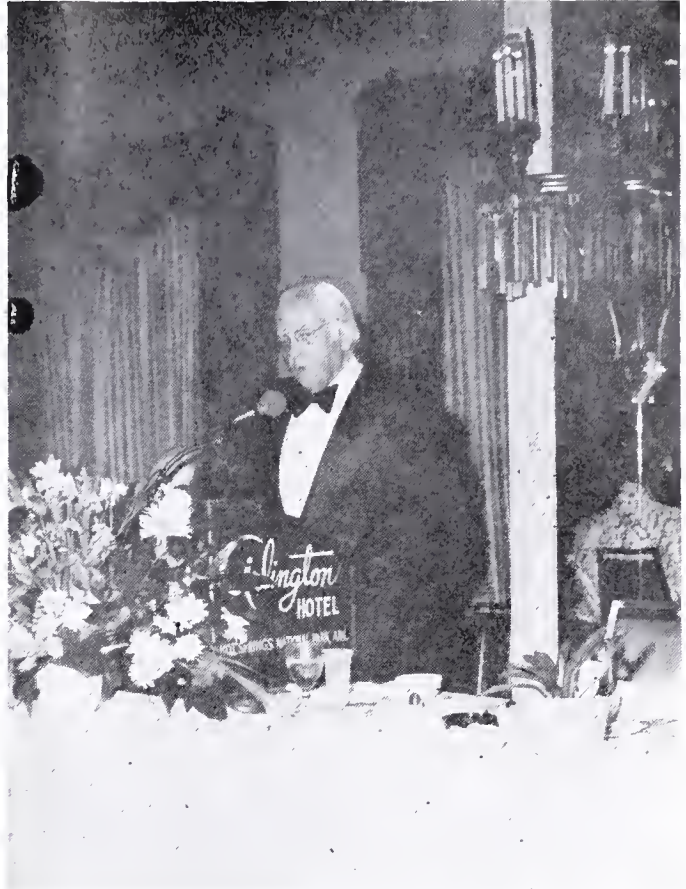
FURTHER, BE IT RESOLVED that copies of this resolution be sent to all members of the Arkansas delegation to the Congress of the United States.

The Sebastian County Resolution was referred to Reference Committee Number Three.

THE INAUGURAL BANQUET



President W. Payton Kolb presents a certificate to Leah Richmond in recognition of her twenty-five years of service to the Arkansas Medical Society.



Dr. W. Payton Kolb makes his last address to the membership as president of the Arkansas Medical Society.



Dr. George F. Wynne of Warren takes the oath of office as president of the Arkansas Medical Society for 1978-79.



Immediate Past President W. Payton Kolb receives from the new president, George F. Wynne, a plaque of appreciation for his service to the profession and to the State during the past year.

Speaker Chudy announced meetings of the three reference committees and urged members to attend the open hearings of the committee following the meeting of the House of Delegates.

Meetings were held on the floor of the House to select district representatives to the Nominating Committee. Selected were: M. J. Osborne, Jim Lytle, John Hestir, H. W. Thomas, George Warren, C. Lynn Harris, Robert McCrary, Gordon Oates, Ross Fowler, and Ken Lilly.

Vice Speaker Crow announced meetings to select nominees for vacancies on the Arkansas State Board of Health and the Arkansas State Medical Board.

The meeting adjourned at 3:00 P.M.

PRESIDENT'S ADDRESS

DR. W. PAYTON KOLB

"WHO IS EXPENDABLE"

At the outset of World War II our concept of combat contained a realization that some soldiers would live and some would die. The choice as to whom would fit into each category was on a hit or miss basis to a great degree. When we began to get stories back from the tragedy of the Bataan Peninsula, we became more acutely aware of another situation. This was the expendable soldier. In this situation there was no gamble on the outcome. The soldier was ordered to hold his position until death to protect the retreat of his unit.

It is not difficult to find oneself thinking about the thoughts and feelings of a person put into that situation. To fully understand would be impossible. In the horror of war we can understand the necessity of such a tragic position in order to gain a military objective and possibly preserve many other lives.

As the tempo of the comments and discussions concerning the cost of medical care increases, we are hearing more and more the expression of "cost-effectiveness." We would not be disturbed by this if we were assured an interest in cost-effectiveness would not disturb the quality of medical care. I am greatly disturbed when I hear the comment that a coronary by-pass should not be done on someone over the age of 73 because it is not cost-effective.

Mr. Califano, himself, in an interview in "Medical World News" of April 3, 1978, talks about the British Health System and quotes them as follows, "We'll let people wait a few years for a hip operation." Mr. Califano then says, "They're saying in

effect, 'If you are 75, odds are you won't have your hip operation.' They've made those kinds of judgments. Those are very difficult judgments to make. We are nowhere near making any kind of judgments like that in this country." I would like to believe him, but too much is being written along these lines to not be frightened at the prospects.

Physicians have made life and death decisions throughout the history of their existence. This is part of our responsibilities. We have taken that responsibility because in our relationship to the patient and the family we were a part of that relationship. Such a decision under those circumstances was made on an individual and personal basis as it should be.

If such decisions become a product of "Guidelines" as well they might, then we will find ourselves in the position of seeing people, individuals, and our patients being expendable strictly for the cause of cost-effectiveness. If we go to the Webster's Dictionary for a definition of "expendable," we find these words, "designating equipment or men considered replaceable and, therefore, worth sacrificing to gain an objective." I cannot envision anything more horrible in a society than to make that objective the saving of money rather than the saving of life.

Can it happen here? I would like to quote from the Editorial in "Medical Tribune" of March 1, 1978. "Once one goes down the route of determining what is right medically by what is determined to be cost-effective, then there is no branch of medicine which is not susceptible to governmental and public pencil sharpeners." And further, "Will cost-effectiveness be the determinate of future treatment? If, doctor, you are in medical practice or in biomedical research, ask not 'for whom the bell tolls; it tolls for thee.'"

As I pointed out last year, the critics of cost and those who refer to American medicine as a "mess" are either ignorant of history or want to deliberately take over medicine for personal gain.

Dr. Julius Richmond, Undersecretary for Health for HEW, spoke to us at the Organization of State Medical Society Presidents in Chicago last December. He stated, "There is obvious improvement in spite of shortcomings and gaps. There is a tendency to overlook that today the American people enjoy better health and longer life than ever before in history." He goes on to point out the great advances in medicine of which we are all aware.

THE INAUGURAL BANQUET



The membership gives Dr. George F. Wynne a standing ovation upon being installed as president of the Arkansas Medical Society for 1978-79.



Dr. Wynne presented to his wife a bouquet of roses from friends in Warren.

Dr. Richmond then states, "We are acutely aware of problems not because of failure but because of success." We can agree that there is a problem of cost in medical care and that we as physicians can take an important role in helping to solve this problem. The problem is complex and, unfortunately, further complicated by the fact there are individuals and groups, who for their own gain, throw up a smoke screen of accusations, false statistics, and denial of history, in order to confuse the issues.

I have been attending programs in Washington on cost and medical care for several years. The story I have gotten from Capitol Hill and especially from our own delegation is that the country simply cannot afford an overall comprehensive plan such as the Kennedy-Corman Bill. In spite of all of the problems that have been repeatedly pointed out, we see where two weeks ago Mr. Kennedy and Mr. Meany went to the White House to demand that Mr. Carter introduce a National Health Insurance program immediately. This in spite of the reluctance on the part of Mr. Califano to push the issue. We are still confronted with having to fight against unreasonable programs that are detrimental to patient care instead of being able to sit down and work out the problems as they are.

The Editorial in "Nation's Business" for April 1978 discusses the decision of Representative Otis Pike (Democrat of New York) to retire. In his statement of explanation he says, "I feel increasingly uneasy with the never-ending fiscal irresponsibility of the majority of my own party and the absolute indifference of both political parties to inflation, the size of our annual deficit, our national debt, or any obligation to pay our bills and balance our budget.

"The Republicans pay lip service to these things and then vote overwhelmingly to increase defense spending, start new pension programs and revenue sharing programs, increase tax credits, and increase tax cuts, every one of which must, of course, increase both the deficit and the debt.

"The Democrats vote to increase welfare programs, education programs, and health programs. They recognize every national need except the need to pay our bills."

We are told that it is a crisis because health care is approaching ten percent of the Gross National Product. Obviously, every effort must be made to have medical care available for everyone. At the

same time I personally feel that good health is most important to all of us and cannot understand why it basically is bad for it to be ten percent of the GNP. We have developed an instant pleasure gratifying playboy society that resents paying for its health needs because it interferes with paying for its pleasures. Sigmund Freud warned us about putting the pleasure principle over the reality principle many years ago. If we would only listen!

Dr. Ed Annis, Past President of the AMA, has pointed out an interesting fact that also contributes to the high cost of medical care. Had you ever realized that health insurance is the only casualty insurance that the individual is anxious to use and feels cheated if he or she does not use it?

What is our present situation in regard to "cost-containment?" You are familiar with the proposed "cap" on hospital costs and its present status. We have been able to slow down this legislation by convincing Congress of the many problems that are involved in such a program which would in the end be detrimental to patient care.

Congressman Rostenkowski, the Chairman of the Sub-Committee on Health of the Ways and Means Committee, has challenged those of us in the health care field to put on a successful voluntary cost-containment program. He has backed the challenge with a threat that if we don't do it then Congress will. Interestingly, he has brought out of his committee a bill setting up such a program before we have had time to get such a program functioning. This bill came out of committee on a 7 to 6 vote. Every effort will be made to block that bill in the full committee.

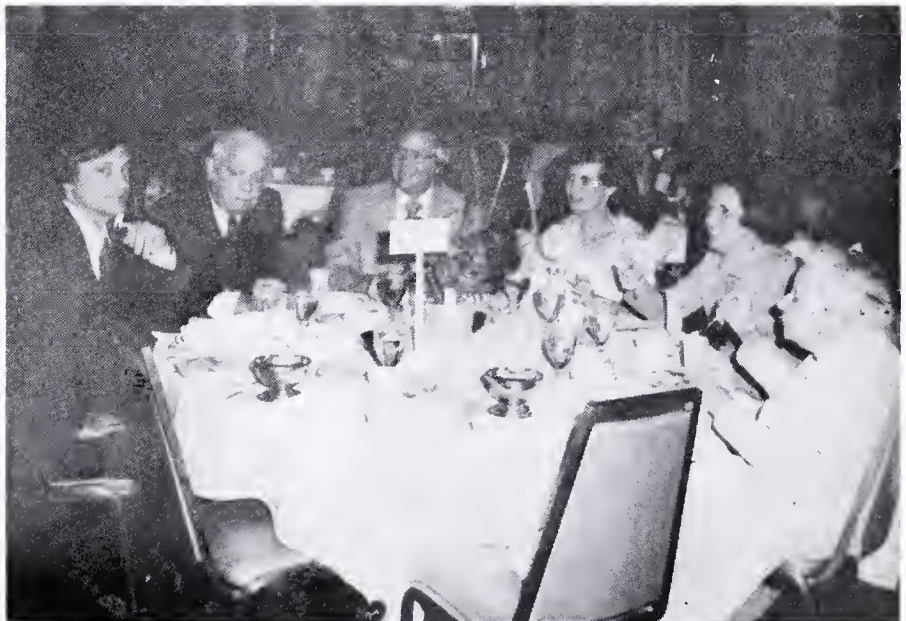
Under the leadership of the AMA, a National Commission on the Cost of Medical Care has been established. The report of this commission will be the major business of the AMA House of Delegates in St. Louis in June. It may be rather controversial with its 48 recommendations, but it can be a very good starting point.

How much cost can be cut remains to be seen. I have felt that active attempts at cutting possible excessive laboratory work would be too small to be of benefit. When I learned that in order to fulfill just six of the many federal regulations, our hospitals had to add \$24.00 to every patient's bill, I realized possibly a reduction of \$24.00 worth of laboratory on the average, per patient, could be accomplished. This would add up to a savings of

THE NEW PRESIDENT'S BANQUET GUESTS



Members of the Bradley County Medical Society and their wives attended the banquet on Tuesday evening to witness the installation of one of their members as president of the State Society. Members of the family of Dr. and Mrs. Wynne also were present (see remarks of incoming president).



800 million dollars across the country. This would be worthwhile. This is just one example of several areas that can be approached.

The general idea of the report of the commission is to produce a 2% reduction in hospital costs in 1979 and 2% in 1980. It is recommended that medical societies offer their services as survey groups to help hospitals accomplish this. We learned that the Texas Medical Association has developed such a program and it is beginning to show results.

It will be important to see how our AMA House of Delegates reacts to the report. Obviously, any accomplishment will not satisfy many politicians, and we will have to continue to fight for quality care for the patients. Also as you know, just two weeks ago we learned that an attack is being started on physicians' fees. Every effort is being made to take the control of care out of the hands of those trained in the delivery of quality health care.

Time is not available to go into detail on this very important matter. You are encouraged to read the publications from the Arkansas Medical Society office and the AMA to keep up with the rapid developments that are affecting all of us as we serve our patients.

In closing, I would like to touch briefly on the malpractice problem which is a major factor in raising the cost of health care. I felt you would be interested in some preliminary figures from the survey that was sent to you. A complete report will be sent out soon.

Out of 642 responses received, 85% of the respondents believe there is a malpractice crisis, and 88% are willing to work on it. Thirty-five percent have considered early retirement, and 29% have considered changing fields of practice. Ninety-seven percent of you feel the problem definitely increases the cost of care. Forty-seven percent of the respondents have limited their practice to some degree. This includes 67% of the Family Practitioners in communities of under 25,000 population and 65% of the Family Practitioners in communities of over 25,000 population.

In regard to increased services, 79% report more x-ray, 80% more laboratory procedures, and 67% more admissions to the hospital.

Defensive medicine, obviously, is one of the major problems in the increased cost of medical care. We can improve this situation in Arkansas by getting our petitions signed quickly and properly turned in. Then getting the Amendment passed, followed by appropriate legislation. It is also essential that we become as active as possible in the present political campaigns.

The fact a presentation of this type has to concentrate on matters such as these rather than matters of clinical medicine, research, education, etc., points out the serious position our patients are in at this time. We have no choice but to continue to fight for the quality care that has brought us to the point of success where we are now in health care. The potential for further progress in medicine is exciting and actually beyond our comprehension at this time. We hope and pray we can continue this progress.

This has been a busy year for all of us but one in which we have made much progress. I appreciate the opportunity you gave me to participate in it this way. It is obvious that in coming years we will see more and more bureaucracy with unreal guidelines and regulations, some of which we will have to fight to protect our patients and some of which we will have to live with. If we don't stand together in a common bond, the inevitable result will be the rationing of medical care, a lowering of quality of care, and worst of all the development of the expendable person crucified on the cross of "cost-effectiveness."

REFERENCES

1. Califano, Joseph A.: "HEW Secretary Speaks out on 'H.'" "Medical World News" Vol. 19, No. 7, pp 65-66, April 3, 1978.
2. Editorial: "Ask Not, Doctor, 'For Whom the Bell Tolls; It Tolls for Thee.'" "Medical Tribune" Wednesday, March 1, 1978.
3. Richmond, Dr. Julius: Speech to the Organization of State Medical Society Presidents, Palmer House Hotel, Chicago, Ill., December 3, 1977.
4. Editorial: "Last Words that should be Famous." "Nation's Business" Vol. 66, No. 4, pp 106, April 1978.



FINAL SESSION

HOUSE OF DELEGATES

Wednesday, April 19, 1978

Speaker Amail Chudy called the House to order at 10:00 A.M. on Wednesday, April 19, 1978. Invocation was by Immediate Past President W. Payton Kolb.

Executive Vice President C. C. Long called the roll of delegates. The following delegates, officers, and members seated as delegates by action of the House were present:

ARKANSAS, John M. Hestir; BAXTER, John F. Guenther; BENTON, Richard Pearson; BOONE, Charles A. Ledbetter; BRADLEY, W. C. Whaley; CHICOT, John R. Russell; CLARK, R. Jerry Mann; CLEBURNE, Nathan Poff; CRAIGHEAD-POINSETT, James M. Robinette, Frank M. James; CRAWFORD, Millard C. Edds; CRITTENDEN, Milton D. Deneke; DALLAS, John Delamore; DREW, Paul Wallick; FAULKNER, Dan Gardner; GARLAND, Gaither C. Johnston, Ronald J. Bracken, Edgar K. Clardy; GREENE-CLAY, Richard O. Martin, A. J. Baker; HEMPSTEAD, Lowell Harris; HOT SPRING, Robert H. White; HOWARD-PIKE, U. Lee Smith; INDEPENDENCE, Jim E. Lytle; JEFFERSON, T. E. Townsend, L. G. Langston; JOHNSON, Boyce W. West; LAWRENCE, Ralph Joseph; LEE, Dwight W. Gray; MARION, Roger D. Simons; MISSISSIPPI, Eugene Shaneyfelt; MONROE, N. C. David; OUACHITA, Cal Sanders; PHILLIPS, Robert D. Miller, Jr.; POLK, David D. Fried; POPE, James M. Kolb, Jr.; PULASKI, Edgar Easley, James R. Weber, Paul Cornell, Robert Dickins, George Mitchell, William G. Reese, J. Mayne Parker, Harold Purdy, Fred Kittler, John McCollough Smith, Gilbert O. Dean, William N. Jones, G. Thomas Jansen, Curry Bradburn, Raymond Biondo, Thomas A. Bruce, David Barclay, Alvah Nelson, Ben N. Saltzman, Henry Thomas, Gordon Oates, John Satterfield; SALINE, James C. Bethel; SEBASTIAN, Ken Lilly, Kenneth Wallace, A. C. Bradford, A. S. Koenig, Jr., Morton Wilson; UNION, Wayne G. Elliott, Allan S. Pirnique; WASHINGTON, Joe C. Parker, E. Mitchell Singleton, John W. Vinzant; YELL, James L. Maupin; COUNCILORS, John B. Kirkley, M. J. Osborne, John E. Bell, Paul Gray, L. J. P. Bell, John P. Burge, Raymond Irwin, C. Lynn Harris, A. E. Andrews, Robert F. Mc-

Crary, W. Ray Jouett, Rhys A. Williams, Morris Henry, Kemal Kutait, Charles F. Wilkins; PRESIDENT George F. Wynne; FIRST VICE PRESIDENT Ken Lilly; SPEAKER OF THE HOUSE Amail Chudy; VICE SPEAKER Asa Crow; SECRETARY Elvin Shuffield; TREASURER Kenneth R. Duzan; PAST PRESIDENTS H. W. Thomas, Ross Fowler, Stanley Applegate, Robert Watson, Ben N. Saltzman, T. E. Townsend, A. S. Koenig, Jr., W. Payton Kolb.

Speaker Chudy introduced Eugene F. Worthen, Speaker of the House of Delegates of the Louisiana Medical Society, who was a special guest of the House of this session.

George Warren, Chairman of the Nominating Committee, presented the report of the committee, as follows:

For President-elect: A. E. Andrews, Texarkana, and H. W. Thomas, Dermott

First Vice President: Richard Pearson, Rogers

Second Vice President: Joe Lyford, Russellville

Third Vice President: Richard Martin, Paragould

Secretary: Elvin Shuffield, Little Rock

Treasurer: K. R. Duzan, El Dorado

Speaker, House of Delegates: Amail Chudy, North Little Rock

Vice Speaker, House of Delegates: W. P. Phillips, Fort Smith

Councilors (for two year terms):

Asa Crow, Paragould

John E. Bell, Searcy

L. J. Pat Bell, Helena

John P. Burge, Lake Village

J. B. Jameson, Camden

C. Lynn Harris, Hope

Robert F. McCrary, Hot Springs

William N. Jones, Little Rock

Rhys A. Williams, Harrison

Kemal Kutait, Fort Smith

Councilors (to fill unexpired terms)

George Warren, Smackover

Donald Duncan, Texarkana

H. W. Thomas requested that his name be withdrawn from the slate. The House then unanimously elected the proposed slate of officers.

Speaker Chudy requested that A. S. Koenig and Asa Crow escort the new president-elect to the

podium. Dr. Andrews addressed the House as follows:

"I feel very inadequate at this moment. I am honored at your confidence in electing me to this office. I hope that in two years from now when I finish this term you feel that you made a wise decision. Thank you very much."

Speaker Chudy called for reports of the reference committees. The report of Reference Committee Number One was read by chairman Ken Lilly:

REFERENCE COMMITTEE NUMBER ONE

The members of the committee are as follows: myself as chairman, Gaither Johnston, Banks Blackwell, and Carl Raque. Reference Committee Number One was well attended by approximately sixty to seventy-five members of the Arkansas Medical Society and good discussion was obtained on most subjects.

The first report considered was that of the Committee on Medical Education, Raymond V. Biondo, chairman, as found on page thirty in the books of reports. The rather lengthy report was reviewed by the committee with some discussion regarding the requirements of the new Constitution that membership in the Society will be dependent on compliance of CME requirements and emphasis that an enabling law has been passed by the Arkansas Legislature which would require evidence of CME for prerequisite for re-licensure. Discussion brought out that the exact number of CME hours has not been determined for either Society membership or by the Arkansas State Medical Board regarding re-licensure. Much discussion evolved around possible computerization of hours to simplify reporting of hours to other organizations. No specific recommendations were made. Mr. Speaker, I move the adoption of the report of the Committee on Education. Approval was voted by the House.

The committee next considered the report of the Committee on Liaison with the Auxiliary, Kemal E. Kutait, chairman. The committee felt that the statement that our wives are really our better halves was well taken and recommended the adoption of the report, and I so move. There being no objection, it was so ordered.

Next was considered the report of the Fifth District Councilor, J. B. Jameson, Jr., and it was noted in the report that Jacob Ellis had become the head of the El Dorado AHEC program. There was no specific discussion regarding this report.

Mr. Speaker, I move the adoption of the Fifth District Councilor. It was so ordered.

Next business considered was that of the report of the Eighth District Councilor. It was noted that William Orr, councilor from the Eighth District, was not present because of a serious illness which found him in critical condition in a Little Rock hospital. The fourteen points of his report were carefully studied by the committee and no discussion was forthcoming regarding this report. Mr. Speaker, I move the adoption of the report of the Eighth District Councilor. Approval was voted by the House.

The committee then discussed the report of the Executive Vice President, C. C. Long. There was no discussion about the report and the committee recommends the adoption of the report as written on pages thirty-nine and forty of the book of reports. Mr. Speaker, I so move. The House voted approval.

The committee then considered the report of the Budget Committee, H. W. Thomas, chairman. There was no discussion regarding this report, and the committee in reviewing the report felt that the report should be adopted as recorded on pages forty and forty-one of the book of reports. Mr. Speaker, I so move. Approval was voted by the House.

The committee then considered the report of the Arkansas Medical Political Action Committee, W. P. Phillips, chairman. Dr. Phillips made specific comments regarding the lack of support by the membership at large for Ark-PAC and requested help from those present in enlisting more Ark-PAC members. He discussed the format by which candidates are interviewed before decisions to consider them for support by Ark-PAC are made. The committee wishes to commend Dr. Phillips and Ark-PAC for their good work during this important election year in which we are electing a Senator and two Congressmen. The report is found on pages fifty and fifty-one of the book of reports and the committee wishes to recommend its adoption, and I so move.

Councilor Robert McCrary spoke commending the Ark-PAC Board for the magnificent job they have done this year, commenting that it had been very gratifying to attend the meetings of the committee with candidates present. The House approved the recommendation of the reference committee that the report be adopted.

The committee next considered the resolution from the Crittenden County Medical Society



Dr. and Mrs. Kemal Kutait (left) and Dr. Ken Lilly enjoy the Blue Cross-Blue Shield party on Monday evening. Mrs. Kutait served as President of the State Auxiliary for the past year. Dr. Kutait is a district councilor of the State Society and Dr. Lilly was first vice president during the past year.



Dr. and Mrs. M. J. Osborne of Blytheville (center) visit with Dr. and Mrs. Rhys Williams of Harrison during one of the convention parties. Drs. Osborne and Williams are district councilors.



Dr. James W. Branch, Dr. and Mrs. Raymond Irwin, and Dr. and Mrs. Robert Atkinson go through the receiving line at the Council reception on Sunday evening. Mrs. George F. Wynne, wife of the Society's president-elect is in the background.

regarding Blue Cross-Blue Shield's methods of accepting insurance forms. After presentation of the resolution, it became obvious from the discussion that there was little support for the resolution; however, specific comments were made by many members of the Society regarding difficulties with billing forms to Blue Cross-Blue Shield. It was stated by Dr. Benafield that he would work with the appropriate personnel at Blue Cross-Blue Shield to have billing forms acceptable to physicians who were having difficulty with their billing and that they would try to improve on the quality of personnel who were reviewing claims. In view of the possibility that some of the problems might be solved by the insurance committee, Banks Blackwell, chairman of the Insurance Committee, offered his name and address to receive complaints or constructive criticism. Because of the lack of support for the resolution, the committee recommends that the resolution from Crittenden County Medical Society be not adopted. Mr. Speaker, I so move. There being no objection, it was so ordered.

The last item of business considered by the committee was the report of the Council, John P. Burge, chairman, as printed on pages 36, 37, 38 and 39 of the book of reports and as presented orally at the Sunday meeting and a minority report from John B. Kirkley as directed by vote from the House of Delegates on Sunday, April 16th. There was no discussion regarding the report of the Council, therefore, the committee recommends its adoption as presented; and since the discussion regarding the minority report will be discussed next, I move the adoption of the report. The House so voted.

A long and heated discussion followed which was participated in by large numbers of the Society. During the discussion, it was pointed out that there were many problems of communication between some members of the Arkansas Medical Society and its home office, especially in the Little Rock area. It was felt by these members and Dr. Kirkley of the First Councilor District that it would be appropriate to move the home office of the Arkansas Medical Society to Little Rock. Opponents of this idea expressed their reasons as to why the Society office should remain in Fort Smith. Other members expressed the need for further information and time to discuss the problem with their constituents at home before deciding such an important issue. It was further pointed out that the report of the Study Commit-

tee, chaired by Dr. Kirkley, was addressed solely to the possible need of a legislative branch office in Little Rock. After careful consideration of the comments by members of the Society, the committee first wishes to request the Executive Vice President and the staff to explore all possible means of improving communication with Society members as soon as possible.

Second, that a study committee be appointed consisting of one member of each of the ten councilor districts elected by the members in the district. It was agreed that the committee should meet within sixty days and should elect its own chairman. The committee's duty would be to gather all possible information regarding cost of moving the office, cost of maintaining an office, possible locations for the office including cities other than Little Rock, the effects of such a move on the Society employees or any other pertinent information. That if, in the course of its study, the committee needed outside, expert consultation, it should contact the Council for approval of such an expenditure as necessary. Further, that all of the committee's information be transmitted to the component county societies and their delegates at least sixty days prior to the 1979 Annual Session and that an appropriate vote as regards the home office be taken as a matter of old business at the Wednesday session of the House of Delegates in the 1979 Annual Session. Mr. Speaker, I so move.

John Kirkley spoke in opposition to the recommendation of the reference committee and requested a vote at that session on the question of moving the headquarters office. There was considerable discussion of the reference committee recommendation. The committee accepted as grammatical changes clarification regarding the method of selecting the committee and organization of the committee and these changes were incorporated in the Report. The House, by majority vote, approved the recommendation of the reference committee.

Dr. Lilly concluded the report of Reference Committee Number One as follows:

This concludes the report of the Reference Committee Number One of the 1978 Annual Session of the Arkansas Medical Society. I wish to thank the members of the committee for their diligent work and the staff of the Arkansas Medical Society for their help in the preparation of this report and the members of the Society who were kind enough to attend the reference commit-



President and Mrs. W. Payton Kolb relax during the party on Monday evening.



Councilor and Mrs. Paul Gray were among those attending the reception hosted by the Council on Sunday evening.



Dr. R. Jerry Mann, Second Vice President (left background) discusses Society business with Dr. George Warren during the Council reception Sunday evening.

tee hearing and express their opinions. Mr. Speaker, I move adoption of the entire report as amended. The House so voted.

William Jones of Pulaski County spoke commending the reference committee for their handling of a difficult task and suggesting an expression of appreciation from the House. The committee was applauded for its work.

Speaker Chudy referred to the portion of the report of Reference Committee Number One pertaining to the report of the councilor from the eighth district. Dr. Chudy asked that the House stand in a moment of silent prayer for William S. Orr and his family and that Mrs. Orr be advised of the House action.

The report of Reference Committee Number Two was read by Chairman R. Jerry Mann:

REFERENCE COMMITTEE NUMBER TWO

The members of Reference Committee Number Two were John Vinzant, Frank Westerfield, Donald Duncan, and myself as chairman. The committee met on Sunday, April 16th, and considered the following reports:

- Report of the Tuberculosis Committee.
- Report of the Committee on Industrial Health.
- Report of the Sub-Committee on Traffic Safety.
- Report of the Sub-Committee on Liaison with Vocational Rehabilitation.
- Report of the Committee on Medicine and Religion.
- Report of the Physician-Nurse Joint Practice Committee.
- Report of the Private Insurance Review Committee.
- Report of the Committee on Liaison with the Health Systems Agencies.
- Report of the Ad Hoc Legislative Assistance Committee.
- Report of Professional Relations Committees from the Second, Third, and Seventh Councilor Districts.
- Report of the Arkansas State Health Department.

Report of the Medical Education Foundation for Arkansas.

Mr. Speaker, Reference Committee Number Two recommends the acceptance of the above reports as published in the Journal of the Arkansas Medical Society and I so move.

Reference Committee Number Two also considered the Report of the Legislative Committee

presented by Dr. Shuffield on Sunday, and approves the report as presented.

The House approved the complete report of Reference Committee Number Two as presented.

Vice Speaker Crow called the attention of the House to the work done by Elvin Shuffield as secretary of the Society and as chairman of the Legislative Committee and expressed appreciation to Dr. Shuffield.

The report of Reference Committee Number Three was read by Chairman Henry Thomas:

REFERENCE COMMITTEE NUMBER THREE

The members of Reference Committee Number Three were John Delamore, Dwight Gray, George Warren and myself as chairman.

The committee met on Sunday, April 16th, and considered the following reports:

1. Resolution from Council to repeal Section 227 of Public Law 92-603.
 2. Committee on Cancer Control.
 3. Committee on Public Health.
 4. State and Eighth Councilor District Professional Relations Committee.
 5. Ninth Councilor District Professional Relations Committee.
 6. Tenth Councilor District Professional Relations Committee.
 7. Report of the Arkansas State Medical Board.
 8. Report of the AMA Delegate.
 9. Summary of Arkansas Foundation for Medical Care.
- Mr. Speaker, this Reference Committee recommends adoption of the above committee reports as printed, and I so move. There being no objection, it was so ordered.

10. Sub-Committee on National Legislation. This Reference Committee recommends adoption of the report of the Sub-Committee on National Legislation with the additional recommendation that this committee be instructed to meet during 1978. This portion of the report was approved by the House as presented.

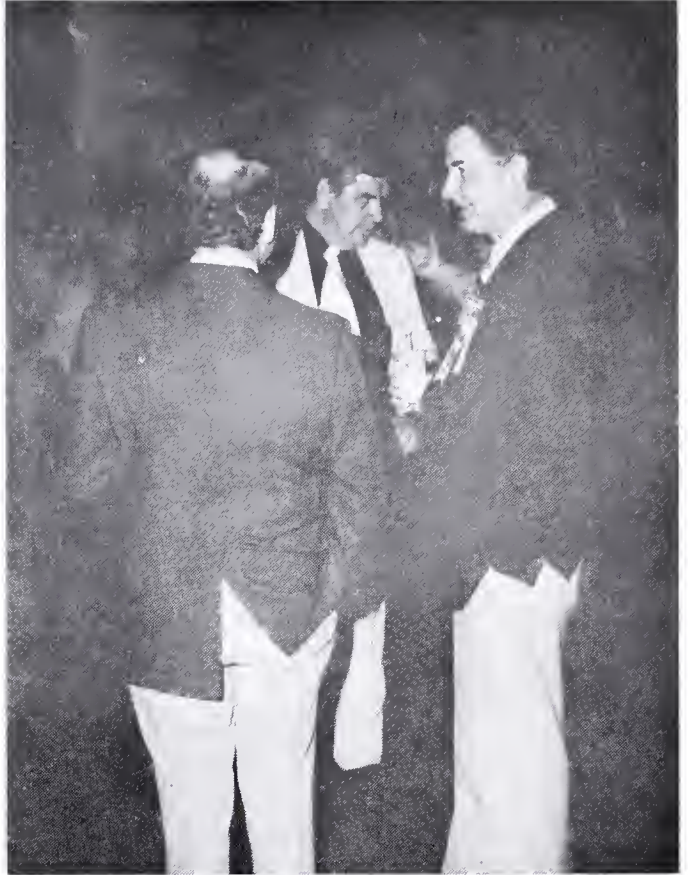
11. Resolution From Sebastian County Medical Society. The Reference Committee has drawn up a resolution which reads as follows:

WHEREAS, recent changes of the Bureau of Health Insurance have reduced reimbursement provided Medicare/Medicaid beneficiaries for office calls and hospital visits by physicians to a level significantly below

THE ANNUAL CONVENTION'S LIGHTER MOMENTS



Drs. Lynn Harris, Curry Bradburn and Gordon Oates enjoying fellowship of one of the evening parties.



Dr. J. Larry Lawson (right) served as chairman for the scientific exhibits at the 1978 convention. Dr. Asa Crow (background) served as vice speaker during the past year and was elected to the position of councilor during the meeting.



President and Mrs. W. Payton Kolb (right) visit with Drs. Eva Dodge, Morris Henry and John Vinzant during the convention.



Dr. and Mrs. Frederick Joyce of Texarkana were greeted by members of the Executive Committee and their wives at the Council reception on Sunday evening.

previously acceptable fees in old Area 1 of Arkansas, and

WHEREAS, the Sebastian County Medical Society has petitioned the Arkansas Medical Society through its officers and good offices to vigorously seek correction of this rollback,

WHEREAS, neither the Sebastian County Medical Society nor Reference Committee Number Three desires to return to a multi-area fee schedule,

RESOLVED, that the House of Delegates of the Arkansas Medical Society instruct the Council of the Arkansas Medical Society and its officers to seek legal counsel to obtain a more equitable payment to recipients of Medicare/Medicaid funds in the areas affected by the rollback.

Upon motion of Henry and Maupin, the House voted to amend the "resolved" portion of the reference committee proposal to read as follows:

RESOLVED, that the House of Delegates of the Arkansas Medical Society instruct the Council of the Arkansas Medical Society and its officers to seek legal counsel to obtain a more satisfactory payment to recipients of Medicare-Medicaid funds.

The House then voted adoption of the report of Reference Committee Number Three as amended.

Speaker Chudy called on the chairman of the Council, John P. Burge, who presented the following report covering meetings of the Council held during the Annual Session:

REPORT OF THE COUNCIL

The Council met on Sunday, April 16, and transacted business as follows:

1. Heard Austin Grimes discuss work of the Private Insurance Review Committee. He advised the Council that he felt that there must be developed a more technically sound approach to adjudicating cases submitted for review or the committee should be abolished. The Council voted to follow advice of legal counsel in the matter.
2. Approved requests for dues exemption as presented by the county medical societies.
3. James Dennis, Chancellor of the University of Arkansas for Medical Sciences, expressed appreciation for the cooperation and support he had received from the physicians of the State while Chancellor. Dr. Dennis also discussed the appointment of a search committee for selection of his successor as Chancellor.

4. Payton Kolb reported for the Executive Committee on action taken with regard to the Council's vote to seek professional help with the initiated petition drive.
5. The Society headquarters office was directed to write the presidents and secretaries of every county medical society to get their members to return completed petitions to the Society office prior to June 1, with notification to the district councilors for follow up in their districts to physicians who have not returned the petition forms.
6. The Council voted to officially request that the Arkansas Medical Society Auxiliary assist in the petition drive by making necessary telephone calls and visits to get physicians and Auxiliary members to submit completed petition forms.
7. Selected Mahlon Maris of Harrison as a Society representative on the Board of Trustees of Blue Cross-Blue Shield for a term beginning in March 1979.
8. Selected Robert Watson for appointment to another term on the Board of Directors of the Medical Education Foundation for Arkansas.
9. Filled vacancies on the Medical Services Review Committee as follows:
FAMILY PRACTICE: James Weber, Jacksonville.
INTERNAL MEDICINE: Jack Fendley, North Little Rock.
SURGERY: Rhys Williams, Harrison.
PEDIATRICS: Harry Harmon, Rogers.
PATHOLOGY: Douglas E. Young, Little Rock.
ORTHOPAEDICS: James H. Buie, Fort Smith.

Dr. Payton Kolb called the Council's attention to the fact that Leah Richmond had completed twenty-five years of service to the Society and presented a resolution of appreciation for Miss Richmond's assistance in developing and implementing Medical Society policies, and administering its daily affairs. By unanimous vote, the Council recommended adoption of the resolution to the House of Delegates. An appropriate gift is to accompany the appreciation of the Society.

The Council met on Monday, April 17, and took the following actions:

1. Selected Robert McCrary of Hot Springs to represent Obstetrics-Gynecology on the Medical Services Review Committee.



Dr. George Mitchell, President of Arkansas Blue Cross-Blue Shield, and his wife greet Dr. and Mrs. A. Henry Thomas at the reception hosted by Blue Cross-Blue Shield on April 17th. Dr. Thomas served as third vice president of the Society for 1977-78.

2. Voted to meet in Little Rock in 1981 and in Hot Springs in 1982.
3. Selected Milton Deneke of West Memphis and Thomas Durham of Hot Springs for terms on the Arkansas State Arbitration Commission.
4. Approved life memberships for E. J. Cruse, J. B. Elders, and A. B. Dickey.

The Council met on Tuesday, April 18, and elected the following to positions on the Board of Directors of Ark-PAC:

W. P. Phillips, Fort Smith
 Ken Lilly, Fort Smith
 Boyce West, Clarksville
 Raymond Biondo, North Little Rock
 Noel Ferguson, Harrison
 Jerry Mann, Arkadelphia
 Donald Duncan, Texarkana
 F. E. Joyce, Texarkana
 Payton Kolb, Little Rock
 George Warren, Smackover
 Mrs. Kemal Kutait, Fort Smith
 Mrs. Carl Wilson, Fort Smith
 Mrs. Paul Cornell, Little Rock

The Council endorsed in principle the establishment of a Jerome Levy chair at the University of Arkansas College of Medicine.

The Council met on Wednesday and transacted the following business:

1. Adopted a resolution of appreciation for service of James Dennis at the University of Arkansas for Medical Sciences.
2. Approved a request by the Ophthalmology Section that the Council reaffirm the position of ophthalmologists as providers of primary eye care in the State.
3. Referred to the Constitutional Revisions Committee a recommendation that the immediate past president of the Society be a voting member of the Council.

Upon motion of Dr. Burge, the House approved the report of the Council as presented.

RESOLUTION

RE: James L. Dennis

WHEREAS, Doctor James Dennis has, for many years, with great ability and dignity, fulfilled his position as physician-educator and

administrator, serving as Chancellor of the University of Arkansas Medical Sciences Campus, and

WHEREAS, he has performed all of these tasks in a most exemplary and unselfish manner, and

WHEREAS, because of reasons of health, Doctor Dennis has requested that he be relieved of his administrative duties,

THEREFORE, BE IT RESOLVED that the Arkansas Medical Society express to Doctor Dennis its great respect and admiration for his untiring and outstanding service, and

FURTHER BE IT RESOLVED that Doctor Dennis be furnished a copy of this resolution, and that this resolution be spread on the pages of the Journal of the Arkansas Medical Society and inscribed for posterity on a suitable plaque and presented to Doctor Dennis by the President of the Arkansas Medical Society.

This resolution dated this 19th day of April 1978 at Hot Springs, Arkansas.

STATEMENT FROM THE OPHTHALMOLOGY SECTION

Legislation was introduced by the optometrists in the last session to allow non-physicians to practice medicine by the use of drugs. This bill was vetoed by Governor Pryor.

We believe a similar bill will be introduced next year. If such a bill is passed, non-medical personnel, who are not subject to the supervision of the State Medical Board, will be allowed to use drugs and, in effect, practice medicine.

If optometrists are allowed to engage in the practice of medicine by the use of drugs, a precedent will be established to allow other groups, e.g., chiropractors, to practice medicine.

The Ophthalmology Section of the Arkansas Medical Society requests the Council and the House of Delegates to oppose the efforts of inadequately trained personnel to engage in the practice of medicine.

We request the Council and House of Delegates to reaffirm the position of ophthalmologists as providers of primary eye care in the State of Arkansas. We feel only physicians are experienced and trained to deliver medical and surgical eye care.

Speaker Chudy asked that the House give Mr. Eugene Warren recognition for all the work that he does on behalf of the Society. Mr. Warren was accorded a standing ovation. Mr. Warren spoke briefly and indicated that he would be glad to visit with local medical societies if asked to do so.

Speaker Chudy then expressed thanks to the headquarters office staff for their work in preparation for the convention.

Speaker Chudy then presented the following resolution in recognition of Leah Richmond:

RESOLUTION

RE: Leah Richmond

WHEREAS, the House of Delegates of the Arkansas Medical Society, in regular Session assembled, takes notice that Miss Leah Richmond did, on November 24, 1977, complete twenty-five years of exemplary service to the Arkansas Medical Society.

WHEREAS, serving in a superior manner in many capacities, Miss Richmond has earned promotion after promotion; in 1976, the Council of the Arkansas Medical Society elevated her to the position of Associate Executive Vice President, and

WHEREAS, her perspicacity has been of inestimable value to the officers of the Society, and

WHEREAS, the committees and members of the Society frequently call on her wisdom and rely on her dependability, and

WHEREAS, her unflagging dedication and zeal have earned the loyalty and admiration of the doctors of Arkansas, and

WHEREAS, these qualities have combined with her high intelligence to enable her to discharge her executive duties with distinction,

NOW THEREFORE BE IT RESOLVED that the Arkansas Medical Society does hereby express its admiration, respect, and sincere affection for Leah Richmond upon the completion of 25 years of splendid service.

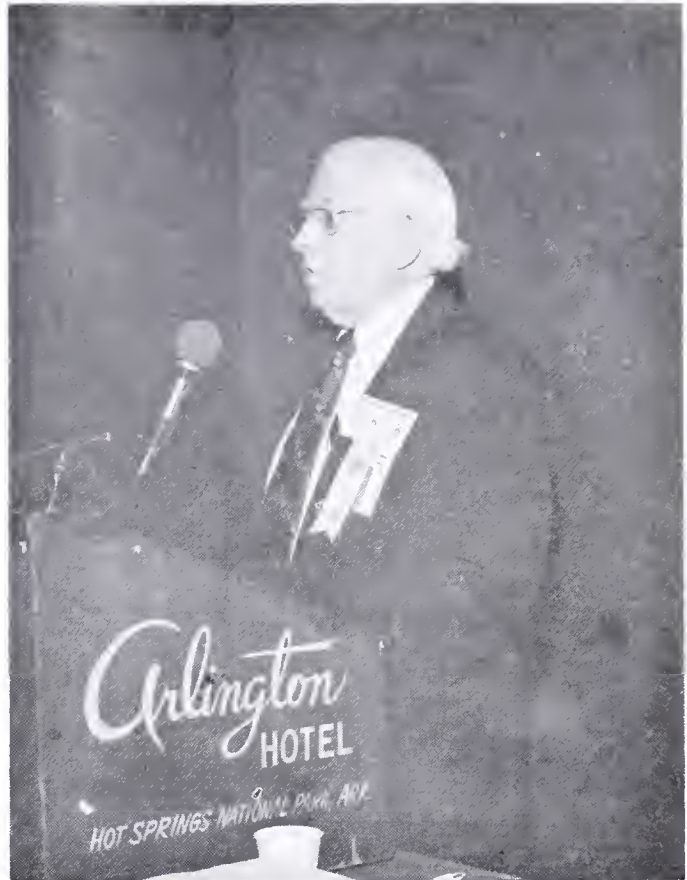
The House gave Miss Richmond a standing ovation. She acknowledged receipt of the resolution with thanks, expressing appreciation to the Society—particularly the officers with whom she had worked, Mr. Schaefer, Dr. Long and other members of the headquarters staff.

Speaker Chudy then asked the House to recognize the Executive Vice President, Dr. Long, and express appreciation to him.

Upon motion of Lowell Harris of Hempstead County, the House voted to consider selection of the study committee members. By motion of Councilor John Bell, the House voted to meet by councilor district to consider selection of the district representatives for the study committee.



Dr. A. E. Andrews of Texarkana addresses the House of Delegates, accepting position of president-elect of the Arkansas Medical Society.



Dr. W. Payton Kolb, Little Rock, makes his "President's Address" to the House of Delegates of the Arkansas Medical Society on April 16, 1978.

Members selected to the Study Committee for each district are:

1. John Kirkley, Jonesboro
2. Jim Lytle, Batesville
3. John Hestir, DeWitt
- 4.
5. K. R. Duzan, El Dorado
6. C. Lynn Harris, Hope
7. Robert McCrary, Hot Springs
8. Ray Jouett, Little Rock
9. Morriss Henry, Fayetteville
10. Ken Lilly, Fort Smith

Upon motion of George Warren, the House voted to approve the nomination of Elvin Shuffield for a position on the Arkansas State Medical Board.

Upon motion of George Warren, the House voted to approve nominations as follows for positions on the Arkansas State Board of Health:

Second Congressional District:

W. J. Ketz, Batesville

Jim Lytle, Batesville

Paul Gray, Batesville

Fourth Congressional District:

William C. Whaley, Warren

L. V. Ozment, Camden

Joe King, Nashville

The House applauded Speaker Chudy for the outstanding job of conducting the business of the House.

The meeting of the House of Delegates adjourned at 11:55 A.M.

REORGANIZATIONAL MEETING OF THE COUNCIL

The Council of the Society met for a brief re-organizational meeting following adjournment of the House of Delegates. John P. Burge was re-elected chairman of the Council and Alfred Kahn, Jr., was re-elected Editor of the Journal of the Arkansas Medical Society.



SCIENTIFIC SESSIONS

The theme for the scientific program was "The Recognition and Evaluation of Patients with Pulmonary Disease". First Vice President Ken Lilly presided at the Monday morning session. James Adamson of Pulmonary and Renal Associates in Little Rock spoke on "Dyspnea and the Evaluation of the Dyspneic Patient"; Art Squire of Little Rock Diagnostic Clinic discussed "Arterial Blood Gases". Following intermission, Nancy F. Rector of Pulmonary and Renal Associates in Little Rock, spoke on "Use of Spirometry to Evaluate Patients with Pulmonary Disease" and Robert S. Abernathy of the Department of Internal Medicine at the University of Arkansas College of Medicine spoke on "Choice of Antibiotic Therapy for Acute Bacterial Pneumonia Before Cultures are Known".

A. Henry Thomas, Third Vice President, presided at the Monday afternoon session. The program opened with "New Concepts and Treatment in Bronchial Asthma" by William L. Mason

of Pulmonary and Renal Associates, Little Rock. "New Concepts in Recognition and Management of Patients with Pulmonary Emboli" by Jerry R. Stewart of Fort Smith was followed by a panel discussion with the speakers for the day serving as the panel.

Tuesday morning the Second Vice President, R. Jerry Mann, presided. Hiram B. Curry, Professor and Chairman of the Department of Family Practice of the Medical University of South Carolina, spoke on "Transient Ischemic Attacks". "Primary Immunodeficiency Diseases Leading to Chronic Pulmonary Disease" was discussed by Rebecca H. Buckley, Professor of Pediatrics, Duke University School of Medicine, Durham, North Carolina. The program ended with a presentation on "The Significance and Management of Childhood Urinary Infections" by John Woodard, Chairman of the Department of Urology of Emory University School of Medicine in Atlanta.

SCIENTIFIC EXHIBITS

Twenty-three scientific exhibits were displayed during the meeting. Exhibitors were:

Kenneth Jones, Little Rock, "Carpal Tunnel Syndrome"
Joseph S. Hudson, Memphis, "Pain Rehabilitation Center"
Raymond Morrissy, Little Rock, "Seating Handicapped Children"
Ben Dewbre, North Little Rock, "Disability Evaluation Under Social Security"
Mr. Basil Smith, Arthritis Foundation, "Arthritis—The Number One Crippler"
Harry Hayes, Little Rock, "Mammoplasty"
Neil Sims, University of Arkansas College of Medicine, "Continuing Education"
Little Rock Ear, Nose and Throat Clinic—A. J. Brizzolara and Reed Thompson, "Averaged Electroencephalic Response"
Florence Char, W. T. Dungan—"Patterns of Malformation in Children Exposed to Gestational Anticonvulsants"
Samuel B. Thompson, John D. Christian, William L. Steele and Richard Nasca, Little Rock, "Orthopaedic Aspects of Rheumatoid Arthritis"

Sloan Wilson, Little Rock, "Retino Toxic Drug Effects"
Ellery Gay, Little Rock, "Cosmetic Surgery in Outpatient Surgery Center"
James Suen, Little Rock, "Rehabilitation of the Head and Neck Patient"
John H. Bowker, Little Rock, "Stroke/Head Injury Rehabilitation"
James Kyser, Little Rock, "Rhinoplasty"
Jerry C. Holton, Little Rock, "Angiodysplasia of the Colon—A Case of GI Bleeding"
H. A. Ted Bailey, James J. Pappas, Ellery C. Gay, Jr., Joe B. Colclasure, Robert N. McGrew, "Hearing Aid Dispensing Within the Otology-Audiology Clinic"
Paul Woodard, "Area Health Education Centers"
Jacob Amir, Little Rock, "Lung Cancer"
W. Turner Harris, Little Rock, "Interesting Incidental and Sometimes Insignificant Findings in Bone Scintigraphy"
Carl L. Nelson, Robert M. Tirman, Chet J. Janecki, Robert G. Eubanks, Little Rock, "Shoulder Anthropography—Necessary or Not"
Joe B. Colclasure, Little Rock "Teflon Injection of the Vocal Cord"

RELATED MEETINGS

The Arkansas Society of Pathologists held a luncheon meeting on Monday, April 17, with Mr. Norm Birch of the College of American Pathologists as speaker.

The Arkansas Society of Internal Medicine met on Monday, April 17th, for a luncheon and afternoon program meeting. Ralph Reinfrank, Past President of the American Society of Internal Medicine was luncheon speaker. Speakers for the afternoon scientific session were members of the faculty of the Department of Medicine at the University of Arkansas College of Medicine—James J. Kane, Assistant Professor; Peter Kohler, Department Chairman; Charles Hiller, Assistant Professor, Rodney Patterson, Associate Professor, and Clinton Texter, Professor.

The Alan Cazort Allergy Society of Arkansas held a dinner meeting in Little Rock on Monday evening, April 17th, with Rebecca Buckley of North Carolina as guest speaker.

The Ophthalmology Section met at 9:00 A.M. on Tuesday. Speakers on the scientific program included John Fulmer, Little Rock; Gissur Petursson, Little Rock; James H. Landers, Little Rock; Joe Smith, Little Rock; Ramesh Tripathi, Chicago; Brenda Tripathi, Chicago; R. Sloan Wilson, Little Rock; Michael Roberson, Little Rock; and A. Henry Thomas, Little Rock. A business meeting was held during the luncheon

following the scientific program.

The Otolaryngology Section met at 10:00 A.M. on Tuesday with Charles Krause of Ann Arbor as guest speaker. A luncheon and business meeting followed the scientific program.

The Arkansas Orthopaedic Society held a luncheon meeting on Tuesday, April 18, at the Hot Springs Rehabilitation Service Center. Speakers for the scientific program included James Arnold of Fayetteville and Michael Curtis of Little Rock.

The Arkansas Society of Anesthesiologists held a luncheon meeting on Tuesday, April 18. Roy Wilson of Jackson, Mississippi, was guest speaker.

The Arkansas Academy of Family Physicians held a luncheon meeting on Tuesday, April 18. Hiram B. Curry of Charleston, South Carolina, was guest speaker.

The Neurosurgery Section held a luncheon meeting on Tuesday, April 18, with Stephen R. Neese of Little Rock as guest speaker.

The Arkansas Chapter of the American Academy of Pediatrics held a luncheon meeting on Tuesday, April 18. William H. Weidman of Rochester was guest speaker.

The Arkansas Urological Society held a luncheon meeting on Tuesday, April 18. The scientific program was presented by John Woodard of Atlanta.

OTHER ACTIVITIES

PRAYER BREAKFAST

A Prayer Breakfast for all members of the Society and Auxiliary was held on Tuesday, April 18, with C. R. Ellis, Chairman of the Committee on Medicine and Religion, serving as master of ceremonies. Invocation was by W. Payton Kolb, President of the Society. Fred Henker, member of the Committee on Medicine and Religion, read the Scripture. Wendell Ross of Fort Smith was the principal speaker. Benediction was by George F. Wynne, president-elect of the Society.

The breakfast was sponsored by the Committee on Medicine and Religion of the Arkansas Medical Society.

MEMORIAL SERVICE

A Society-Auxiliary Memorial Service was held at 1:00 P.M. on Sunday, April 16, in the Ballroom of the Arlington Hotel. Society President W.

Payton Kolb presided and read the names of deceased members of the Society. Mrs. Kemal Kutait read names of deceased members of the Auxiliary. The Memorial Address was by Carl Wenger of Little Rock. Benediction was by the Reverend Ed McDonald, Chaplain of the Baptist Medical Center, Little Rock.

NECROLOGY

Ross Bizzell, Little Rock
M. E. Blanton, Jonesboro
William J. Butt, Fayetteville
James R. Callaway, Benton
A. D. Cathey, El Dorado
Richard B. Dickinson, DeQueen
Caldeen D. Gunter, Siloam Springs
William E. Harville, Little Rock
William K. Hill, Elaine
Robert H. Hood, Tyler, Texas



Dr. George F. Wynne of Warren (left) will serve as president of the Arkansas Medical Society for 1978-79 and Dr. A. E. Andrews of Texarkana will serve as president-elect.

Coy C. Kaylor, Fayetteville
Lawrence L. Thompson, Little Rock
Harry M. White, Rogers
Robert H. Whitehead, DeWitt

Mrs. W. F. Adams, Van Buren
Mrs. C. A. Archer, Conway
Mrs. J. E. Beasley, Blytheville
Mrs. Arless A. Blair, Fort Smith
Mrs. James H. Chesnutt, Hot Springs
Mrs. Oliver W. Clark, Pine Bluff
Mrs. R. C. Dickinson, Horatio
Mrs. Paul M. Fulmer, Little Rock
Mrs. Glenn G. Hairston, Prescott
Mrs. Thomas H. Hickey, Morrilton
Mrs. S. B. Hinkle, Little Rock
Mrs. Haynes G. Jackson, Hot Springs
Mrs. Robert L. Johnson, Grady
Mrs. Virgil N. Kennedy, Fort Smith
Mrs. John P. McGraw, El Dorado
Mrs. J. Sheppard Moore, Arkadelphia
Mrs. Bill C. Page, Paragould
Mrs. Wilfred Parsons, Little Rock
Mrs. P. H. Phillips, Ashdown
Mrs. Ewing C. Reed, Jr., Little Rock
Mrs. W. James Stocker, Benton
Mrs. Brooks Teeter, Russellville
Mrs. J. H. Turner, Piggott
Mrs. Deane D. Wallace, Little Rock

MEMORIAL ADDRESS

Mr. Chairman, families, peers and other friends of those in whose memory we meet this afternoon:

We, today, share from varying perspectives the burden of grief and loneliness the death of our associates has imposed upon us.

It is our purpose this afternoon to transcend this burden in a measure by viewing in retrospect a monument built by them as a memorial to themselves—their countless deeds of selfless service will stand as a monument more enduring than bronze or stone to their personal commitment to the lightening of burdens, be they physical pain or deformity, emotional distress or fear or spiritual uncertainty and dread.

I am confident that each of you share with me the recognition of the sometimes severe mercy of God in permitting us the privilege of such reminiscence. It stirs within our hearts and minds the epitaph "well done" and mandates our continued gratitude and admiration.

Such reminiscence serves as well to remind us of our continuing opportunity to serve our Creator and His creature. Words of comfort remain to be spoken, the touch of healing waits to be applied. These needs unmet become for us, the living, the almost sacred legacy of those who have given to the lifting of this load "their last full measure of devotion".

The task we recognize and assume is eternal in its significance and approaches the infinite in its dimension. I must confess to a personal reticence to pursue it alone. I find myself abandoned to the grace of God, the Creator of us all, Who is also identified as the "Father of Compassion and the God of all Comfort". My quest for example and strength ends in God Incarnate, the Great Physician, Who invited all with burdens too heavy to be borne to come to Him and find rest.

The wisdom of the Preacher establishes well the uncertain temporal dimension imposed upon us in our assumption, with humility and compassion, of the mission to which those whom we today remember have given their lives.

"Remember now thy Creator in the days of thy youth, while the evil days come not, nor the years draw nigh when thou shalt say, I have no pleasure in them;

While the sun, or the light, or the moon, or the stars, are not darkened, nor the clouds return after the rain;

In the day when the keepers of the house shall



Executive Committee of the Council, 1978-79. Dr. John P. Burge, Lake Village, Chairman; Dr. George F. Wynne, Warren, President; Dr. A. E. Andrews, Texarkana, President-elect; and Dr. Elvin Shuffield, Little Rock, Secretary.

tremble, and the strong men shall bow themselves, the grinders cease because they are few, and those that look out of the windows are darkened,

And the doors shall be shut in the streets; when the sound of the grinding is low, and he shall rise up at the voice of the bird, and all the daughters of music shall be brought low;

Also when they shall be afraid of that which is high, and fears shall be in the way, and the almond tree shall flourish, and the grasshopper shall be a burden, and desire shall fail; because men goeth to his long home, and the mourners go about the streets;

Or ever the silver cord is loosed, or the golden bowl is broken, or the pitcher is broken at the fountain, or the wheel broken at the cistern;

Then shall the dust return to the earth as it was, and the spirit shall return unto God, Who gave it". Ecclesiastes 12: 1-7

PAST PRESIDENTS' BREAKFAST

The former presidents of the Arkansas Medical Society were honored at a breakfast Wednesday

morning. Past presidents attending were W. Payton Kolb, A. S. Koenig, Jr., T. E. Townsend, Ben N. Saltzman, Robert Watson, Stanley Applegate, Jack W. Kennedy, Ross Fowler, H. W. Thomas, C. R. Ellis, and T. Duel Brown.

FIFTY YEAR CLUB

Members of the Fifty Year Club of the Arkansas Medical Society were honored at a breakfast meeting on Wednesday.

John F. Guenther, Henry Hollenberg, Murphey Henry and Louise Henry were welcomed as new members of the club and presented membership pins.

Curtis W. Jones, Sr., of Benton, was re-elected president of the club and Eva F. Dodge of Little Rock was re-elected secretary.

COUNCIL RECEPTION

A reception was hosted by the Council of the Society on Sunday evening for all members. Members of the Executive Committee and their wives formed a receiving line—President W. Payton Kolb and Mrs. Kolb, President-elect



Mrs. Deno Pappas, Auxiliary AMA-ERF Chairman, presents \$15,490 unrestricted grant to Dr. Thomas A. Bruce, Dean of the University of Arkansas College of Medicine.

George F. Wynne and Mrs. Wynne, Chairman of the Council John P. Burge and Mrs. Burge, and Secretary Elvin Shuffield and Mrs. Shuffield.

BLUE CROSS-BLUE SHIELD

Arkansas Blue Cross-Blue Shield hosted a cocktail party for members of the Society on Monday evening of the convention. George Mitchell, president of Blue Cross-Blue Shield, senior staff members and field representatives of the organization were gracious hosts.

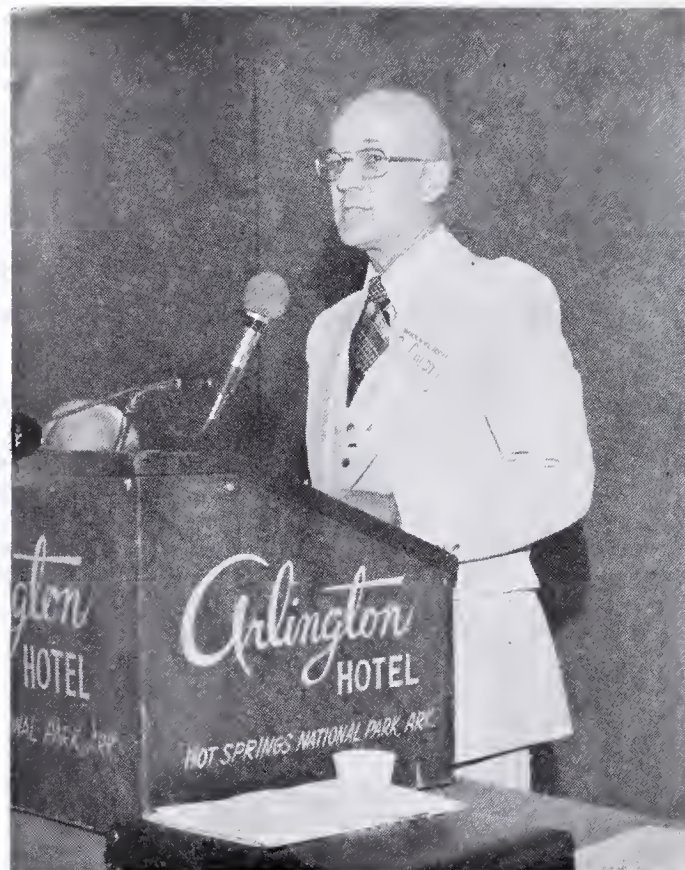
The Society expresses appreciation to Dr. Mitchell and Blue Cross-Blue Shield for the nice party hosted for the Society.

INAUGURAL BANQUET

President W. Payton Kolb served as master of ceremonies for the President's Banquet on Tuesday evening of the Convention. Invocation was by C. R. Ellis.

Seated at the head table for the banquet were President Kolb and Mrs. Kolb, President-elect George F. Wynne and Mrs. Wynne, Secretary Elvin Shuffield and Mrs. Shuffield and Chairman of the Council John P. Burge and Mrs. Burge.

President Kolb introduced the following special guests present:



Speaker Dr. Amail Chudy presiding at session of the House of Delegates on Sunday, April 16.

Mr. L. V. Johnston, Newport, President of the Arkansas Hospital Association.

Mr. Roger Busfield, Executive Director of the Arkansas Hospital Association.

George K. Mitchell, President of Blue Cross-Blue Shield of Arkansas.

Mrs. Kemal Kutait, Immediate Past President of the Arkansas Medical Society Auxiliary.

Mrs. Walter Mizell, President, Arkansas Medical Society Auxiliary.

Mrs. Frank Morgan, President-elect, Arkansas Medical Society Auxiliary.

Eugene Worthen, Speaker of the House of Delegates of Louisiana Medical Society.

President Kolb introduced Mrs. Mary Shambarger, Associate Professor of Music of Ouachita Baptist College, who presented the "Ouachi-Tones". The Ouachi-Tones presented an outstanding musical program and were accorded a standing ovation.

President Kolb asked Leah Richmond to come to the podium. He presented to Miss Richmond a certificate in recognition of her twenty-fifth anniversary as an employee of the Arkansas Medical Society and advised that a gift would accompany the certificate. Miss Richmond received a standing ovation. She expressed appreciation for the certificate and gift from the Society and for

COUNCIL, ARKANSAS MEDICAL SOCIETY, 1978-79

PROCEEDINGS



Seated, left to right: Councilor Paul Gray, Treasurer K. R. Duzan, President-elect A. E. Andrews, President George F. Wynne, Chairman of the Council John P. Burge, Secretary Elvin Shuffield, Councilor M. J. Osborne, and Past President C. R. Ellis. Standing, second row, left to right, First Vice President Richard Pearson, Councilors Rhys Williams, L. J. Bell, George W. Warren, Raymond Irwin, Ray Jouett, Robert McGrady, Kemal Kutait, William Jones, Past President H. W. Thomas; back row, left to right, Councilors J. B. Jameson, Lynn Harris, Asa Crow, Charles Wilkins, Speaker Amail Chudy, Vice Speaker W. P. "Pat" Phillips, Councilors Morris Henry and John Bell and Past President W. Payton Kolb.

AUXILIARY OFFICERS FOR 1978-79



Seated, left to right, Mrs. Ray Jouett, Little Rock, Treasurer; Mrs. Jacob Ellis, El Dorado, Recording Secretary; Mrs. Walter Mizell, Benton, President; Mrs. Frank Morgan, North Little Rock, President-elect. Standing, left to right, Mrs. Asa Crow, Paragonld, Northeast Vice President and Mrs. Robert L. Lewis, Hot Springs, Southwest Vice President. Vice Presidents not pictured are Mrs. W. J. James, Pine Bluff, Southeast, and Mrs. Raymond C. Goodman, Fort Smith, Northwest.

the pleasure of working with the organization for twenty-five years.

President Kolb then recognized individually the other members of the headquarters staff and expressed appreciation to them: C. C. Long, Executive Vice President, Ken LaMastus, Professional and Public Service Coordinator, Dee Thompson, Peggie Branham, Patricia Williams, Wilma McAlister, Janey Dickerson, and Bobbie Toliver.

President Kolb also recognized members of the staff of the Arkansas Foundation for Medical Care who were present: Mr. Paul Schaefer, Mr. Max Blake, Stella Bucknam, and Alma Lowrey.

President Kolb then made the following remarks as retiring president of the Arkansas Medical Society:

REMARKS OF DR. KOLB AS RETIRING PRESIDENT

My father frequently told a story, years ago, that he contended was true. A group of patients

in a psychiatric hospital were sitting around talking one evening. One patient had traveled significantly and was somewhat boring the remainder with his stories of his experiences. Another patient, recovering from the horrors of alcohol delirium tremens, would occasionally interrupt the other and ask him if he had ever had the "d.t.'s". Finally, the traveler, in exasperation, stopped and said, "what does that have to do with my story?". The other replied, "brother, if you ain't had the 'd.t.'s', you ain't been nowhere and ain't seen nothing yet".

Dr. Wynne, I can assure you that you "ain't been nowhere and ain't seen nothing yet". I can assure you that your patients will be angry, your family will be frustrated, and your travel agent will be richer and happier.

This is a unique experience. You will be "chewed out" and blamed as well as praised and thanked for things you did do and did not do. The year could not turn my hair any whiter but some of it did fall out.

AUXILIARY PAST PRESIDENTS



Past Presidents of the Arkansas Medical Society Auxiliary in attendance at the club breakfast on Monday were (seated, left to right) Mrs. Lynn Harris, Hope; Mrs. Hoyt Choate, Little Rock; Mrs. A. A. Little, Texarkana; Mrs. J. W. Branch, Hope; Mrs. Paul Gray, Batesville; Mrs. Carl Wilson, Fort Smith. Standing, left to right, Mrs. Paul Schaefer (honorary); Mrs. Frank Padberg, Little Rock; Mrs. W. H. Hibbits, Texarkana; Mrs. Curry Bradburn, Little Rock; Mrs. Charles Wilkins, Russellville; Mrs. Mason Lawson, Little Rock; Mrs. C. W. Jones, Sr., Benton; Mrs. Carl Parkerson, Hot Springs; Mrs. John McCollough Smith, Little Rock; Mrs. Gordon Oates, Little Rock.

Seriously, you will have a wonderful experience and next year you will be humble and grateful for the honor your colleagues have given you. You will be given much help and will make many meaningful relationships with the people around you.

There is no way to measure the fantastic staff in our central office. There is Dr. Long, the "Captain of the Ship", keeping up with the meetings, conference calls and keeping things together. Miss Leah Richmond with the organizing ability and pouring oil on the troubled waters ability of a General Eisenhower and the patience of Job as well as many other attributes, keeping up with the details and always a step ahead of everyone else in organization. Mr. Ken LaMastus, with the back-up materials when time to testify before the HSA's, legislative committees, etc., arrives. The rest of the staff with their friendliness, efficiency, and courtesy.

You will work with and appreciate the work of

the Arkansas Foundation for Medical Care with Mr. Schaefer, Mr. Blake, and their good staff.

The support and work of all the officers, committees, councilors, delegates and all other components of our Society will give you confidence.

The hard work and efficiency of the Auxiliary will mean much to you. A more friendly and gracious group will not be found anywhere. I know Mrs. Mizell and Mrs. Morgan will work with you as diligently as Mrs. Kutait and Mrs. Mizell worked with me.

I realize one is bound to leave out someone deserving when singling out fine people to praise at a time like this. I do want to mention also the great help and encouragement from the American Medical Association, the Medical Assistants, the Arkansas Hospital Association, Blue Cross and Blue Shield, and all of the other organizations and people.

The press, on the whole, will be courteous and friendly although at times aggressive. I have



Mrs. Kemal Kutait of Fort Smith, president of the Arkansas Medical Society Auxiliary for 1977-78.

appreciated their courtesy to me personally although at times I have not been in agreement with them.

I would single out the past presidents, of whom I will soon be one, and tell you that they will give you sympathy, understanding and encouragement. I plan to extend to you the same.

As I give thought to all of these wonderful people, I have about decided to not give this job over to you. Seriously, however, last but not least, you will finish the year with a strong emotional feeling of respect and gratitude for the membership of this Society with their devotion to their patients, their love for their Society, and their respect for the President of the Society.

With this, it is my privilege, Dr. Wynne, to ask you to stand here with us and take the Oath of Office as President of the Arkansas Medical Society.

Dr. Kolb administered the oath of office to George F. Wynne of Warren and presented to Dr. Wynne a gavel as a symbol of the office of the President of the Arkansas Medical Society.

As his first official duty as president, Dr. Wynne presented to Dr. Kolb a plaque from the Society expressing appreciation for his service to the



Mrs. Walter Mizell, Benton, President of the Arkansas Medical Society Auxiliary for 1978-79 (seated) and Mrs. Frank Morgan, North Little Rock, president-elect.

State and to the profession during his term as president.

Dr. Wynne announced that all members of his county medical society were present and introduced them individually: Merl T. Crow, James W. Marsh and W. C. Whaley. He expressed his appreciation to the members of the Bradley County Medical Society for a gift presented to him as he was installed as president of the State Society.

Dr. Wynne then presented his wife, Matilda, a bouquet of red roses from the Warren Bank.

Dr. Wynne introduced members of his family who were present to witness his inauguration as president of the Society. They included:

His mother, Mrs. Agnes Coffey of Fordyce

His son, George French Wynne, Jr., of Warren, and his wife

His daughter, Marianna Wynne Ligon of Little Rock and her husband, Stark Ligon

His brother, Thomas Wynne of Fordyce, and his wife

His nephew, Tom Wynne of Fordyce

His father-in-law and mother-in-law, Judge and Mrs. Ed F. McFaddin

His sister-in-law and brother-in-law, Mr. and Mrs. L. C. Thomas of Little Rock

Dr. Wynne addressed the membership as follows:

INAUGURAL ADDRESS

**George F. Wynne, President
1978-1979**

One of the sayings of Hippocrates is: "life is short, the art long, the occasion fleeting, the experiment dangerous, and the judgment difficult".

This is medicine, for we never live long enough to do what we want to do. The art of dealing with people and their problems is time consuming. The occasion for quick proper judgment is sudden and fleeting, and experimentation on our



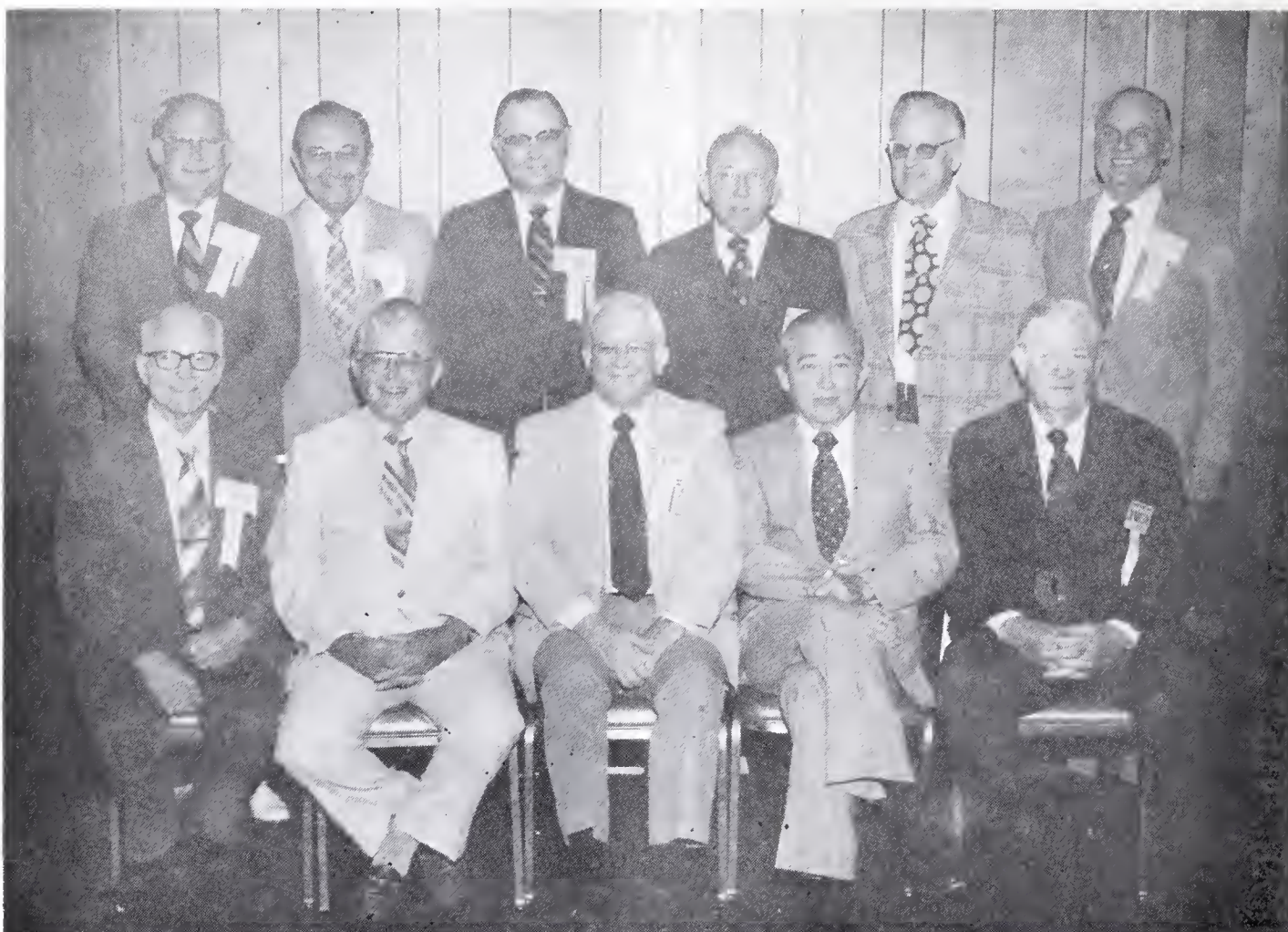
Dr. John F. Guenther of Mountain Home receives Fifty Year Club membership pin from Club President Dr. C. W. Jones, Sr., of Benton.



Dr. Henry Hollenberg of Little Rock is welcomed to membership in the Fifty Year Club of the Arkansas Medical Society by Dr. Jones.



Dr. D. B. Stough of Hot Springs is presented a Fifty Year Club membership pin by Club President Dr. Jones.



Past presidents of the Arkansas Medical Society at breakfast meeting on April 19th: (seated, left to right) Doctors T. Duell Brown, Jack W. Kennedy, W. Payton Kolb, T. E. Townsend, Robert Watson; (standing, left to right) Stanley Applegate, Ben N. Saltzman, A. S. Koenig, H. W. Thomas, C. R. Ellis, and Ross Fowler.

fellow man is certainly dangerous. Finally, the judgments we make are difficult at times, as each of you will testify.

Yet, we would not change it; and very few of us leave our chosen profession.

We are amazed at the advances and changes that have occurred in the practice of medicine in our life time. No one person—doctor, professor or scientist—could possibly assimilate all the knowledge that has been offered to the world. Each doctor in this room has benefited from someone else's work. That is what makes medicine a glorious profession. We share our knowledge willingly; and we call upon our fellow physicians frequently for help and comfort.

You have elected me to be the President of your Society in the year 1978-79, and I am pleased and honored. It is now my privilege to make a few observations in this short address.

With my election as president-elect of the Arkansas Medical Society in April 1977, I suddenly found myself serving on various committees and agencies that scrutinize your practice; the quality of the care you render to your patient, the

justification for your treatment, and last but not least, the fees that you charge for your service. You may not know it, and I certainly didn't realize it before, but you are being watched.

Medicare watches you; PSRO watches you; Medicaid watches you; Regional Health Planning Committees watch you; ACORN, several others, and probably the Internal Revenue Service are all closely watching you.

Within the last few months, the Welfare Department of Arkansas has sent notices to you—those of you who have contracted to care for the Medicaid patients of Arkansas—that there will be audits of your Medicaid patients. This will be done in your office by an audit team and merely consists of a request for 12 to 15 of your Medicaid patients' records. Your records will be examined to see if you saw a patient on the date that a charge was turned into the Medicaid office. They will search for information as to the necessity for the visit. Therefore, it is imperative for your peace of mind to keep accurate records.

You also know that the present administration is dedicated to keeping the cost of medicine down.



Members of the Fifty Year Club of the Arkansas Medical Society present for the meeting on April 19th were: (seated, left to right) Doctors D. B. Stough, Hot Springs; Louise Henry, Fayetteville, Eva F. Dodge, Little Rock, C. W. Jones, Sr., Benton; Gaston A. Hebert, Hot Springs; (standing, left to right) Jerome Levy, Little Rock; Murphey Henry, Fayetteville, John F. Guenther, Mountain Home; Henry Hollenberg, Little Rock; and L. D. Massey, Osceola.



Dr. C. W. Jones, Sr., president of the Fifty Year Club, presents membership pins to Drs. Murphey Henry and Louise Henry of Fayetteville.

This is not a plan to interrupt your practice, but it will be used to scrutinize our profession against fraud.

Investigations into the Arkansas physicians in the past have proven to be frugal. One such investigation revealed less than 2% of our physicians were accused of excessive Medicare charges.

I am proud of the doctors of this State, and I am proud to represent them. I merely take this opportunity to remind you to continue the splendid care that you render to your patients. Be modest in your charges, and live within your means.

We are members of a profession in which the opportunity for constant employment is the best; the financial rewards will always be adequate to sustain a comfortable mode of living.

The noted British philosopher, Samuel Johnson, said two centuries ago, "one could live on six pounds sterling a year at a time when the penny had purchasing power". However, we must remember that if one's style of living constantly consumes all of the family's revenue, the need to earn more becomes a driving incentive.

Another philosopher once said "that nothing in the world is so easy to get accustomed to as money".

So from this country physician to you—the doctors of Arkansas, I admonish you to live within your means, charge modestly but enough to keep you comfortable. Keep good records and we will have a clean slate for any investigating team.

During the next year, we of the Arkansas Medical Society will attempt to get a constitutional amendment passed in our State that will give the medical community some relief on the malpractice problem. Petitions have already been passed, and signatures have been obtained to get registered voters to agree to have this amendment placed on the ballot in November at the general election. Our work has just begun. We must educate the public to the need of this constitutional amendment. It is not an amendment that will help the doctors of the State, nor the hospitals of the State. It is an amendment which will help the people of Arkansas. The passage of this amendment will keep the cost of medicine from increasing. The people will benefit first, and you and I will benefit next.

The passage of this constitutional amendment will be a mandate to the legislature to pass a law that will produce a favorable climate for more

insurance companies to sell malpractice insurance in our State. It will also encourage more physicians to move to our State.

When you leave this meeting tonight, you still have a job to do. We must be prepared to answer questions, talk to civic clubs, and encourage our patients and fellow voters to vote for the passage of this malpractice amendment.

This is an election year, and a very important year it is for medicine. The American Medical Association indicates that recent public opinion polls show that the American people are no longer convinced that Federal subsidized Medicare for the entire population is the answer for America today. The voters know that such a program would bankrupt this nation, and that the quality of medical care would certainly deteriorate. It is, therefore, important that in elections this year, we strive to elect conservative congressmen and senators—men who are interested in the economics of any program; men who realize that a balanced budget is the best budget. If we elect a majority of congressmen who will commit themselves to the necessity of balanced budget, then there is no way in the world we will have total Federal Medicare for all the people from the cradle to the grave. It simply cannot be done.

With this in mind, question the candidate when you meet him—get his views; support the one who thinks the way you do, and use your influence to get him elected.

We have a great Medical Society. Our membership is growing each year. Your executive staff is doing a tremendous job. You have elected a Council that will represent you in governing this Society. It is a privilege for me to serve as your president and I thank you for the honor.

ATTENDANCE

102nd ANNUAL SESSION

Physicians	426
Medical Students	3
Medical Assistants	3
Scientific Exhibitors	14
Commercial exhibitors	104
Auxiliary	4
Other Guests	15
	—
	569
Auxiliary Registration	109
	—
	678

OFFICERS OF THE ARKANSAS MEDICAL SOCIETY 1978-1979

President	George F. Wynne, 113 W. Cypress, Warren 71671
President-elect	A. E. Andrews, P. O. Box 689, Texarkana 75501
First Vice President	Richard N. Pearson, 1223 West Walnut, Rogers 72756
Second Vice President	Joe Lyford, P. O. Box 1107, Russellville 72801
Third Vice President	Richard O. Martin, P. O. Box 339, Paragould 72450
Secretary	Elvin Shuffield, 110 Doctors Park Bldg., Little Rock 72205
Treasurer	Kenneth R. Duzan, 443 West Oak, El Dorado 71730
Speaker, House of Delegates	Amail Chudy, 1801 Maple, North Little Rock 72114
Vice Speaker of House	W. P. Phillips, P. O. Box 3507, Fort Smith 72913
Journal Editor	Alfred Kahn, Jr., 1300 West Sixth, Little Rock 72201
Delegates to AMA	Purcell Smith, P. O. Box 5675, Little Rock 72115 Joe Verser, P. O. Box 106, Harrisburg 72432
Alternates	T. E. Townsend, 1420 West 43rd, Pine Bluff 71603 A. E. Andrews, P. O. Box 689, Texarkana 75501
Executive Vice President	C. C. Long, P. O. Box 1208, Fort Smith 72902

EXECUTIVE COMMITTEE OF THE COUNCIL

Chairman of the Council	John P. Burge, Lake Village Clinic, Lake Village 71653
President	George F. Wynne, 113 West Cypress, Warren 71671
President-elect	A. E. Andrews, P. O. Box 689, Texarkana 75501
Secretary	Elvin Shuffield, 110 Doctors Park Bldg., Little Rock 72205

COUNCILORS

District	Councilor Term Expires '79	Councilor Term Expires '80	Counties in District
1.	*Merrill J. Osborne 527 N. 6th Blytheville 72315	Asa A. Crow #1 Medical Drive Paragould 72450	Clay, Craighead, Crittenden, Fulton, Greene, Lawrence, Mississippi, Poinsett, Randolph, and Sharp
2.	*Paul Gray P. O. Box 2437 Batesville 72501	John E. Bell 1300 South Main Searcy 72143	Cleburne, Conway, Faulkner, Independence, Izard, Jackson, Stone, and White
3.	Herd E. Stone, Jr. P. O. Box "A" Holly Grove 72069	*L. J. P. Bell 626 Poplar Helena 72342	Arkansas, Cross, Lee, Lonoke, Monroe, Phillips, Prairie, St. Francis, and Woodruff
4.	*Raymond Irwin 1421 Cherry Pine Bluff 71601	John P. Burge Lake Village Clinic Lake Village 71653	Ashley, Chicot, Desha, Drew, Jefferson, and Lincoln
5.	George Warren P. O. Box W Smackover 71762	*J. B. Jameson, Jr. P. O. Box 994 Camden 71701	Bradley, Calhoun, Cleveland, Columbia, Dallas, Ouachita, and Union
6.	Donald L. Duncan P. O. Box 778 Texarkana 75501	*C. Lynn Harris P. O. Box 10 Hope 71801	Hempstead, Howard, Lafayette, Little River, Miller, Nevada, Pike, Polk, and Sevier
7.	Curtis B. Clark Sheridan 72150	*Robert F. McCrary 505 West Grand Hot Springs 71901	Clark, Garland, Grant, Hot Spring, Montgomery, and Saline
8.	*W. Ray Jouett 750 Med. Towers Bldg. Little Rock 72205	William N. Jones 500 S. University Little Rock 72205	Pulaski
9.	*Morris M. Henry P. O. Box 1767 Fayetteville 72701	Rhys A. Williams P. O. Box 1118 Harrison 72601	Baxter, Benton, Boone, Carroll, Madison, Marion, Newton, Searcy, Van Buren, and Washington
10.	Charles F. Wilkins 3105 West Main Place Russellville 72801	*Kemal Kutait 1120 Lexington Fort Smith 72901	Crawford, Franklin, Johnson, Logan, Perry, Pope, Scott, Sebastian, and Yell

*Senior Councilor

1978 OFFICERS — COUNTY MEDICAL SOCIETIES — ARKANSAS MEDICAL SOCIETY

ARKANSAS	Pres.—Carl E. Northcutt, Route 1, Box 21-D, Stuttgart 72160 Secy.—Carl E. Northcutt, Route 1, Box 21-D, Stuttgart 72160
ASHLEY	Pres.—Donald L. Toon, 310 N. Alabama, Crossett 71635 Secy.—James D. Rankin, P. O. Box 232, Hamburg 71646
BAXTER	Pres.—Francis M. Brian, Baxter General Hospital, Mountain Home 72653 Secy.—Arthur L. Beard, 126 West 6th, Mountain Home 72653
BENTON	Pres.—Jerry L. Hitt, P. O. Box 737, Rogers 72756 Secy.—Michael C. Reese, 1110 W. Elm, Rogers 72756
BOONE	Pres.—Richard M. Kuharich, 651 North Spring, Harrison 72601 Secy.—Sue R. Chambers, Bower at Pine, Harrison 72601
BRADLEY	Pres.—Merl T. Crow, 205 East Church, Warren 71671 Secy.—William C. Whaley, 205 East Church, Warren 71671
CHICOT	Pres.—Thomas C. Wilson, 115 E. Peddicord, Dermott 71638 Secy.—John R. Russell, Lake Village Clinic, Lake Village 71653
CLARK	Pres.—John W. Balay, 416 Main, Arkadelphia 71923 Secy.—George R. Peeples, 305 East Main, Gurdon 71743
CLEBURNE	Pres.—Joe B. Scruggs, P. O. Box 510, Heber Springs 72543 Secy.—H. L. Cranford, 4th and Searcy, Heber Springs 72543
COLUMBIA	Pres.—Rodney L. Griffin, 123 North Jackson, Magnolia 71753 Secy.—Robert W. Hunter, Jr., Rt. 4, 2602 Crestview, Magnolia 71753
CONWAY	Pres.—Allen R. Rozzell, 500 S. University, Little Rock 72205 Secy.—Henry B. White, P. O. Box 230, Morrilton 72110
CRAIGHEAD-POINSETT	Pres.—John T. St. Clair, 505 E. Matthews, Jonesboro 72401 Secy.—Joe H. Stallings, 417 E. Matthews, Jonesboro 72401
CRAWFORD	Pres.—Marcia Stone, P. O. Box 359, Van Buren 72956 Secy.—F. E. Shearer, P. O. Box 458, Alma 72921
CRITTENDEN	Pres.—M. D. Deneke, P. O. Box 607, West Memphis 72301 Secy.—Keith B. Kennedy, P. O. Box 489, West Memphis 72301
CROSS	Pres.—Robert A. Hayes, P. O. Box E, Wynne 72396 Secy.—Vance J. Crain, P. O. Box 158, Wynne 72396
DALLAS	Pres.—Hugh A. Nutt, P. O. Box 506, Fordyce 71742 Secy.—Don G. Howard, P. O. Box 506, Fordyce 71742
DESHA	Pres.—Guy U. Robinson, 207 South Elm Street, Dumas 71639 Secy.—Howard R. Harris, 207 S. Elm, Dumas 71639
DREW	Pres.—Paul A. Wallick, P. O. Box 660, Monticello 71655 Secy.—L. K. Austin, H. L. Ross Drive, Monticello 71655 Asst. Secy.—Betty Evans, P. O. Box 538, Monticello 71655
FAULKNER	Pres.—Bob G. Banister, 923 Parkway St., Conway 72032 Secy.—Bob G. Banister, 923 Parkway St., Conway 72032
FRANKLIN	Pres.—David L. Gibbons, P. O. Box 136, Ozark 72949 Secy.—Rebecca P. Ewing, 604 West Commercial St., Ozark 72949
GARLAND	Pres.—James L. Gardner, 125 Greenwood, Hot Springs 71901 Secy.—J. Richard Gardial, 125 Greenwood, Hot Springs 71901 Asst. Secy.—Miss Mary Payne, 901 W. Grand Ave., Hot Springs 71901
GRANT	Pres.—Clyde D. Paulk, 1120 N. Main, Sheridan 72150 Secy.—Clyde D. Paulk, 1120 N. Main, Sheridan 72150
GREENE-CLAY	Pres.—Dwight F. Boggs, #1 Medical Drive, Paragould 72450 Secy.—Bennie E. Mitchell, 901 W. Kingshighway, Paragould 72450
HEMPSTEAD	Pres.—George H. Wright, 202 South Pine, Hope 71801 Secy.—James W. Branch, Sr., 426 South Main, Hope 71801
HOT SPRING	Pres.—Russell W. Cobb, 1420 Potts, Malvern 72104 Secy.—Larry B. Brashears, 1234 S. Main St., Malvern 72104
HOWARD-PIKE	Pres.—Joe D. King, P. O. Box 549, Nashville 71852 Secy.—Samuel W. Peebles, 120 W. Sybert, Nashville 71852

PROCEEDINGS

INDEPENDENCE	Pres.—C. M. McClain, 154 S. 3rd St., Batesville 72501 Secy.—Paul J. Baxley, P. O. Box 2116, Batesville 72501
JACKSON	Pres.—Jerry M. Frankum, 2nd and Laurel, Newport 72112 Secy.—John D. Ashley, 2nd and Laurel, Newport 72112
JEFFERSON	Pres.—J. Wayne Buckley, 1408 W. 43rd, Pine Bluff 71603 Secy.—Robert R. Gullett, 1714 Doctors Dr., Pine Bluff 71603 Asst. Secy.—Ann Wilson, Adm. Asst., Jefferson Hosp., 1515 W. 42nd, Pine Bluff 71603
JOHNSON	Pres.—Donald H. Pennington, P. O. Box 668, Clarksville 72830 Secy.—Robert E. Fraser, P. O. Box 668, Clarksville 72830
LAFAYETTE	Pres.—Willie J. Lee, P. O. Box 276, Stamps 71860 Secy.—Craig E. Ditsch, P. O. Box 276, Stamps 71860
LAWRENCE	Pres.—Robert D. Lowery, P. O. Box 150, Walnut Ridge 72476 Secy.—J. B. Elders, 321 S.W. Third, Walnut Ridge 72476
LEE	Pres.—E. C. Fields, 77 West Main, Marianna 72360 Secy.—E. C. Fields, 77 West Main, Marianna 72360
LINCOLN	Pres.—James W. Freeland, P. O. Box 159, Star City 71667 Secy.—James W. Freeland, P. O. Box 159, Star City 71667
LITTLE RIVER	Pres.—Joe G. Shelton, Jr., P. O. Box 697, Ashdown 71822 Secy.—James D. Armstrong, P. O. Box 397, Ashdown 71822
LOGAN	Pres.—William J. Roberts, 114 W. Fourth, Booneville 72927 Secy.—James T. Smith, P. O. Box 286, Paris 72855
LONOKE	Pres.—Willie R. Harris, P. O. Box 40, England 72046 Secy.—B. E. Holmes, 305 West Front, Lonoke 72086
MARION	Pres.—Daniel F. Ward, Route 1, Box 242, Lakeview 72642 Secy.—Robert C. Ahrens, P. O. Box 448, Yellville 72687
MILLER	Pres.—Jack Royal, 300 E. 6th, Texarkana 75502 Secy.—Donald L. Duncan, P. O. Box 778, Texarkana 75502 Exec. Secy.—Mrs. Marilyn Pryor, P. O. Box 1843, Texarkana 75501
MISSISSIPPI	Pres.—Munir Zufari, 527 N. Sixth, Blytheville 72315 Secy.—Eldon Fairley, P. O. Box 68, Osceola 72370
MONROE	Pres.—J. P. Williams, 127 S. New Orleans, Brinkley 72021 Secy.—Walter L. Walker, 114 S. New Orleans, Brinkley 72021
NEVADA	Pres.—Richard P. Portis, P. O. Box 442, Prescott 71857 Secy.—Michael C. Young, P. O. Box 442, Prescott 71857
OUACHITA	Pres.—Robert Nunnally, 353 Cash Road, Camden 71701 Secy.—L. V. Ozment, 353 Cash Road, Camden 71701
PHILLIPS	Pres.—C. M. T. Kirkman, 1105 Perry, Helena 72342 Secy.—William W. Biggs, Helena Hospital, Helena 72342
POLK	Pres.—David P. Hefner, 518 Janssen, Mena 71953 Secy.—Henry N. Rogers, 600 W. 7th Street, Mena 71953
POPE	Pres.—Stanley D. Tecter, 3105 West Main Place, Russellville 72801 Secy.—W. E. King, 3105 West Main Place, Russellville 72801
PULASKI	Pres.—William N. Jones, 500 S. University, Little Rock 72205 Secy.—Harold D. Purdy, 6924 Geyer Springs Rd., Little Rock 72209 Exec. Secy.—Mr. Paul Harris, 311 Doctors Bldg., Little Rock 72205
RANDOLPH	Pres.—Albert L. Baltz, 110 W. Broadway, Pocahtontas 72455 Secy.—Hal S. Barre, P. O. Box 585, Pocahtontas 72455
SALINE	Pres.—Jim C. Porter, 910 N. East St., Benton 72015 Secy.—David L. Stewart, P. O. Box 399, Benton 72015
SCOTT	Pres.—Harold B. Wright, P. O. Box 249, Waldron 72958
SEBASTIAN	Pres.—Samuel E. Landrum, 522 S. 16th, Fort Smith 72901 Secy.—James W. Long, 1500 Dodson, Fort Smith 72901 Asst. Secy.—Mrs. Betty Stipsky, Waldron Road at Ellsworth, Fort Smith 72903
SEVIER	Pres.—W. E. Roark, Broken Bow Clinic, Broken Bow, Oklahoma 74728 Secy.—Nathan L. Dodd, P. O. Box 312, DeQueen 71832 Exec. Secy.—Mr. Jim E. Pearce, Highway 70 West, DeQueen 71832

PROCEEDINGS

ST. FRANCIS	Pres.—Herbert H. Hollis, 317 North Washington, Forrest City 72335
	Secy.—Brian Hawley, 328 Kittel Road, Forrest City 72335
UNION	Pres.—Marvin J. Roesler, 700 W. Grove, El Dorado 71730
	Secy.—John R. Williamson, 318 Thompson, El Dorado 71730
VAN BUREN	Pres.—C. G. Pearce, P. O. Box 51, Clinton 72031
	Secy.—John A. Hall, P. O. Box 310, Clinton 72031
WASHINGTON	Pres.—Robert L. Chester, 660 Lollar Lane, Fayetteville 72701
	Secy.—Murray T. Harris, P. O. Box 1286, Fayetteville 72701
WHITE	Pres.—Eugene A. Joseph, 1300 S. Main, Searcy 72143
	Secy.—Hugh R. Edwards, 1300 S. Main, Searcy 72143
WOODRUFF	Pres.—Fred E. Wilson, P. O. Box 387, McCrory 72101
	Secy.—James E. Rowe, P. O. Box 387, McCrory 72101
YELL	Pres.—James O. Pennington, P. O. Box 68, Ola 72853
	Secy.—Walter P. Harris, P. O. Box 487, Danville 72833

COMMITTEES—ARKANSAS MEDICAL SOCIETY—1978-1979

	Term Expires		Term Expires
COMMITTEE ON CANCER CONTROL		James M. Kolb, Jr., 305 Skyline Drive, Russellville 72801	1981
Herbert B. Wren, P. O. Box 1409, Texarkana 75503	1979	COMMITTEE ON PUBLIC HEALTH	
Charles R. Henry, 500 S. University, Little Rock 72205 — <i>CHAIRMAN</i>	1979	Ben N. Saltzman, 4301 W. Markham, Slot 590, Little Rock 72201 — <i>CHAIRMAN</i>	1979
David Barclay, 4301 W. Markham, Little Rock 72201	1980	Bryant S. Swindoll, 4815 W. Markham, Little Rock 72205	1979
John Broadwater, 1500 Dodson, Fort Smith 72901	1980	Edgar J. Easley, 4815 W. Markham, Little Rock 72205	1980
Wayne H. Schultz, P. O. Box 1998, El Dorado 71730	1981	Milton D. Deneke, P. O. Box 607, West Memphis 72301	1980
COMMITTEE ON MEDICAL LEGISLATION		John W. Vinzant, 22 E. Spring, Fayetteville 72701	1980
A. Samuel Koenig, III, 922 Lexington, Fort Smith 72901	1979	W. C. Whaley, 205 East Church, Warren 71671	1981
Robert Watson, 750 Medical Towers Building, Little Rock 72205	1979	Wilbur G. Lawson, 207 East Dickson, Fayetteville 72701	1981
W. P. Phillips, P. O. Box 3507, Fort Smith 72913	1979	SUB-COMMITTEE ON MATERNAL AND CHILD WELFARE	
Morris M. Henry, P. O. Box 1767, Fayetteville 72701	1980	Charles H. Floyd, 617 S. 16th, Fort Smith 72901	1979
Allie E. Andrews, Jr., P. O. Box 689, Texarkana 75503	1980	John W. Trieschmann, 236 Woodbine, Hot Springs 71901	1980
Donald L. Toon, 310 N. Alabama, Crossett 71635	1980	D. B. Allen, 500 S. University, Suite 414, Little Rock 72205	1980
Elvin Shuffield, 110 Doctors Park Building, Little Rock 72205 — <i>CHAIRMAN</i>	1981	Virgil Hayden, 1706 West 42nd, Pine Bluff 71603 — <i>CHAIRMAN</i>	1981
Joe Verser, P. O. Box 106, Harrisburg 72432	1981	SUB-COMMITTEE ON TUBERCULOSIS	
George W. Warren, P. O. Box W, Smackover 71762	1981	L. J. Pat Bell, 626 Poplar, Helena 72342 — <i>CHAIRMAN</i>	1979
SUB-COMMITTEE ON NATIONAL LEGISLATION		Jerry Stewart, Waldron Road at Ellsworth, Fort Smith 72903	1979
William S. Orr, Jr., 500 So. University, Little Rock 72205	1979	John C. Schultz, 10001 Lile Drive, Little Rock 72205	1980
Morris M. Henry, P. O. Box 1767, Fayetteville 72701 — <i>CHAIRMAN</i>	1979	Donald Miller, 1515 W. 42nd, Pine Bluff 71603	1980
W. Payton Kolb, 230 Medical Towers Building, Little Rock 72205	1980	Jim C. Citty, 2900 Hawkins Drive, Searcy 72143	1981
Dale Alford, 5700 W. Markham, Little Rock 72205	1980	Lawrence C. Price, P. O. Box 3006, Fort Smith 72913	1981
Richard N. Pearson, 1223 West Walnut, Rogers 72756	1981		

PROCEEDINGS

	Term Expires		Term Expires
COMMITTEE ON AGING		IMMUNIZATION SUB-COMMITTEE	
Gordon P. Oates, 1700 W. 13th, Little Rock 72202	1979	Roger B. Bost, 4301 W. Markham, Little Rock 72201	1979
Bill D. Stewart, 415 N. University, Little Rock 72205	1979	Charles E. Kemp, 505 East Matthews, Jonesboro 72401 — <i>CHAIRMAN</i>	1979
Thomas E. Burrow, 903 W. Grand, Hot Springs 71901	1979	Paul C. White, 4815 W. Markham, Little Rock 72205	1980
John F. Guentlner, 126 W. Sixth, Mountain Home 72653 — <i>CHAIRMAN</i>	1980	Deane G. Baldwin, 500 S. University, Little Rock 72205	1980
John A. Baldridge, 300 E. Roosevelt Road, Little Rock 72206	1980	Horace L. Green, 1420 West 43rd, Pine Bluff 71601	1981
Woodbridge Morris, 5326 West Markham #13, Little Rock 72205	1981	Henry B. Rogers, 209 Thompson, El Dorado 71730	1981
		Daniel C. McKinney, 1420 West 43rd, Pine Bluff 71603	1981
SUB-COMMITTEE ON PHYSICAL FITNESS AND SCHOOL HEALTH		SUB-COMMITTEE ON TRAFFIC SAFETY	
James Sanders, 505 E. Matthews, Jonesboro 72401	1979	Carl L. Williams, 522 S. 16th, Fort Smith 72901	1979
Ralph Ingram, 1120 Lexington, Fort Smith 72901	1979	Guy U. Robinson, 207 S. Elm, Dumas 71639	1980
John McCollough Smith, 4000 Woodlawn, Little Rock 72205	1980	James G. Stuckey, Jr., 500 South University, Little Rock — <i>CHAIRMAN</i>	1981
Francis M. Henderson, 1515 W. 42nd, Pine Bluff 71603 — <i>CHAIRMAN</i>	1980	H. Austin Grimes, P. O. Box 5270, Little Rock 72215	1981
Walter J. Giller, 516 West Faulkner, El Dorado 71730	1981	Thomas A. Pullig, 105 West North Street, Magnolia 71753	1981
		George V. Roberson, 1708 Doctors Drive, Pine Bluff 71603	1981
SUB-COMMITTEE ON INDUSTRIAL HEALTH		SUB-COMMITTEE ON LIAISON WITH VOCATIONAL REHABILITATION	
Paul G. Henley, 700 W. Faulkner, El Dorado 71730	1979	John P. Wood, 907 Mena, Mena 71953 — <i>CHAIRMAN</i>	1979
J. L. Martindale, 323 Short, Benton 72015	1979	H. King Wade, Jr., 231 Central, Hot Springs 71901	1979
Noel Ferguson, P. O. Box 1276, Harrison 72601	1980	J. Mayne Parker, 500 S. University, Little Rock 72205	1980
Howard M. Armstrong, 340 Doctors Park Building, Little Rock 72205	1980	Robert Miller, 616 Elm Street, Helena 72342	1980
I. Leighton Millard, P. O. Box 5270, Little Rock 72215 — <i>CHAIRMAN</i>	1981	Jean Gladden, P. O. Box 1118, Harrison 72601	1980
Howard Schwander, 320 Doctors Park Building, Little Rock 72205	1981	W. Ray Jouett, 750 Medical Towers Building, Little Rock 72205	1981
COMMITTEE ON MENTAL HEALTH		Thomas M. Durham, Jr., 505 West Grand, Hot Springs 71901	1981
Joe H. Dorzab, 1500 Dodson, Fort Smith 72901	1979	COMMITTEE ON MEDICAL EDUCATION	
Albert Clowney, 312 Thompson, El Dorado 71730	1979	Wayne G. Elliott, 443 W. Oak, El Dorado 71730	1979
Frank M. James, 2920 McClellan Drive, Jonesboro 72401	1979	Lee Parker, Jr., 241 W. Spring, Fayetteville 72701	1979
Henry Hearnberger, 4313 W. Markham, Little Rock 72205	1980	James W. Sanders, 505 E. Matthews, Jonesboro 72401	1979
John D. Wise, 300 East Roosevelt Road, Little Rock 72206	1980	Bernard Capes, P. O. Box 2398, West Helena 72390	1979
Robert G. Carnahan, 4313 West Markham, Little Rock 72205	1981	Raymond V. Biondo, P. O. Box 921, North Little Rock 72115 — <i>CHAIRMAN</i>	1980
W. Payton Kolb, 230 Medical Towers Building, Little Rock 72205 — <i>CHAIRMAN</i>	1981	Robert H. White, 1001 Dyer, Malvern 72104	1980
William Joe James, P. O. Box 1019, Pine Bluff 71601	1981	W. M. Wells, Fourth and Spring, Heber Springs 72543	1980

PROCEEDINGS

	Term Expires		Term Expires
Neil E. Crow, P. O. Box 1612, Fort Smith 72902	1980	L. Gordon Holt, 5326 W. Markham, Little Rock 72205	1980
James D. Busby, 100 South 14th, Fort Smith 72901	1981	Alvin Strauss, Jr., 1026 Donaghey Building, Little Rock 72201	1981
Bruce E. Schratz, 1801 North Maple, North Little Rock 72114	1981	ADVISORY COMMITTEE TO THE MEDICAL ASSISTANTS SOCIETY	
C. Lynn Harris, P. O. Box 10, Hope 71801	1981	Annette Landrum, P. O. Box 1684, Fort Smith 72902	1979
Neil H. Sims, 4301 West Markham, Little Rock 72201	1981	T. E. Townsend, 1420 West 43rd, Pine Bluff 71603 — <i>CHAIRMAN</i>	1980
COMMITTEE ON HOSPITALS		C. W. Jackson, P. O. Box C, Judsonia 72081	1980
Art B. Martin, 1500 Dodson, Fort Smith 72901 — <i>CHAIRMAN</i>	1979	Jerry C. Holton, 500 South University, Little Rock 72205	1980
George K. Mitchell, P. O. Box 2181, Little Rock 72203	1979	Curtis B. Clark, Sheridan 72150	1981
Harold D. Purdy, 6924 Geyer Springs Road, Little Rock 72209	1980	COMMITTEE ON INSURANCE	
Raymond A. Irwin, Jr., 1421 Cherry, Pine Bluff 71601	1980	Travis Crews, 500 South University, Suite 815, Little Rock 72205	1979
Paul N. Means, 1150 Medical Towers Building, Little Rock 72205	1981	James R. Weber, P. O. Box 188, Jacksonville 72076	1979
John D. Wright, 321 Short Street, Benton 72015	1981	Charles F. Wilkins, 3105 West Main Place, Russellville 72801	1980
COMMITTEE ON PUBLIC RELATIONS		David D. Fried, Northside Shopping Center, Mena 71953	1980
G. Thomas Jansen, 500 S. University, Little Rock 72205	1979	J. Harry Hayes, Jr., 500 South University, Little Rock 72205	1981
Milton Deneke, P. O. Box 607, West Memphis 72301	1979	Banks Blackwell, 1400 West 43rd, Pine Bluff 71603 — <i>CHAIRMAN</i>	1981
Jimmie J. Magie, P. O. Box 1284, Conway 72032	1980	COMMITTEE ON MEDICINE AND RELIGION	
Nathan L. Poff, 401 W. Searcy, Heber Springs 72543	1980	John W. Trieschmann, 236 Woodbine, Hot Springs 71901	1979
A. C. Bradford, Waldron Road at Ellsworth, Fort Smith 72903	1981	Robert R. Sykes, 427 West Oak, El Dorado 71730	1979
W. Ray Jouett, 750 Medical Towers Building, Little Rock 72205 — <i>CHAIRMAN</i>	1981	Fred O. Henker, 4301 West Markham, Little Rock 72201	1980
SUB-COMMITTEE ON LIAISON WITH THE AUXILIARY		Orman W. Simmons, Doctors Park Building, 9600 W. 12th, Little Rock 72205	1980
Walter S. Mizell, Benton Services Center, Benton 72015 — <i>CHAIRMAN</i>	1979	Lawson E. Glover, 10001 Lile Drive, Little Rock 72205	1981
Frank E. Morgan, 410 Pershing Boulevard, North Little Rock 72114	1979	Randolph Murphy, 4313 West Markham, Little Rock 72205	1981
George F. Wynne, 113 West Cypress, Warren 71671	1979	Kenneth Lilly, 1120 Lexington, Fort Smith 72901	1981
T. E. Townsend, 1420 West 43rd, Pine Bluff 71603	1979	Milton D. Deneke, P. O. Box 607, West Memphis 72301	1981
Ben N. Saltzman, 4301 West Markham, Little Rock 72201	1979	COMMITTEE ON ARRANGEMENTS FOR ANNUAL SESSION	
SUB-COMMITTEE ON STATE HEALTH AND MEDICAL RESOURCES FOR CIVIL DEFENSE		Gilbert S. Campbell, 4301 West Markham, Little Rock 72201	1979
Hugh R. Edwards, 1300 South Main, Searcy 72143	1979	Kenneth Lilly, 1120 Lexington, Fort Smith 72901 — <i>CHAIRMAN</i>	1979
James T. Blackmon, 1008 Pine, Arkadelphia 71923 — <i>CHAIRMAN</i>	1980	W. P. Phillips, P. O. Box 3507, Fort Smith 72913	1979
Robert M. Stainton, 300 East Roosevelt Road, Little Rock 72206	1980	R. W. Ross, 1120 Lexington, Fort Smith 72901	1980
Robert L. Kerr, P. O. Box 432, Mountain Home 72653	1980	James A. Wellons, Jr., 890 Medical Towers Bldg., Little Rock 72205	1980
		George H. Collier, Jr., 130 South 14th, Paragould 72450	1980

PROCEEDINGS

Term
Expires

Charles A. Taylor, P. O. Box 2116,
Batesville 72501
Thomas A. Bruce, 4301 West Markham,
Little Rock 72201
Neil H. Sims, 4301 West Markham,
Little Rock 72201
John H. Delamore, P. O. Box 351,
Fordyce 71742

1980
1981
1981
1981

Rhys Williams, P. O. Box 1118,
Harrison 72601
Kemal Kutait, 1120 Lexington,
Fort Smith 72901
A. J. Thompson, 500 South University,
Little Rock 72205
Raymond Irwin, 1421 Cherry,
Pine Bluff 71601

AD HOC COMMITTEE ON LIAISON WITH HEALTH SYSTEMS AGENCIES

Kemal Kutait, 1120 Lexington,
Fort Smith 72901 — *CHAIRMAN*
John Crenshaw, 1421 Cherry,
Pine Bluff 71601
William Joe James, 2500 Rike Drive,
Pine Bluff 71613
James B. Kittrell, 1001 Main,
Texarkana 75502
James Guthrie, 353 Cash Road,
Camden 71701
Kenneth R. Duzan, 443 West Oak,
El Dorado 71730
Bob G. Banister, 923 Parkway,
Conway 72032
Roger Bost, 4501 West Markham Slot 599,
Little Rock 72201
Warren Douglas, 260 Medical Towers Building,
Little Rock 72205
Willie R. Harris, P. O. Box 40,
England 72046
Jerome Levy, 500 South University,
Little Rock 72205
Gordon P. Oates, 1700 West 13th,
Little Rock 72202
James M. Stalker, P. O. Box 2575,
Batesville 72501
Robert Elliott, 300 South Main,
Searcy 72143
Jean C. Gladden, P. O. Box 1118,
Harrison 72601
A. S. Koenig, 922 Lexington,
Fort Smith 72901
James Gardner, 125 Greenwood,
Hot Springs 71901
Don B. Vollmar, 411 East Matthews,
Jonesboro 72401

AD HOC COMMITTEE ON MALPRACTICE

W. Payton Kolb, 230 Medical Towers Building,
Little Rock 72205 — *CHAIRMAN*
John P. Burge, Lake Village Clinic,
Lake Village 71653
George F. Wynne, 113 West Cypress,
Warren 71671
Elvin Shuffield, 110 Doctors Park Building,
Little Rock 72205
A. E. Andrews, P. O. Box 689,
Texarkana 75501
Karlton Kemp, 408 Hazel,
Texarkana 75502

COUNCIL COMMITTEES

PHYSICIAN-NURSE JOINT PRACTICE COMMITTEE

Jerry Holton, 500 South University,
Little Rock 72205 — *CHAIRMAN*
A. T. Gillespie, 500 South University,
Little Rock 72205
Charles E. Tommey, 412 North Washington,
El Dorado 71730
Guy R. Farris, 6213 Lee Avenue,
Little Rock 72205
Kemal Kutait, 1120 Lexington,
Fort Smith 72901

COMMITTEE ON CONSTITUTIONAL REVIEW

A. S. Koenig, Jr., 922 Lexington,
Fort Smith 72901 — *CHAIRMAN*
William S. Orr, 500 South University,
Little Rock 72205
Nathan Poff, 401 West Searcy,
Heber Springs 72543
Warren Murry, 1749 North College,
Fayetteville 72701

BUDGET COMMITTEE

H. W. Thomas, P. O. Box 250,
Dermott 71638 — *CHAIRMAN*
K. R. Duzan, 443 West Oak,
El Dorado 71730
Ken Lilly, 1120 Lexington,
Fort Smith 72901

LIAISON COMMITTEE WITH STATE WELFARE DEPARTMENT (Composed of Executive Committee)

COMMITTEE ON PHARMACY

Kelsy Caplinger, P. O. Box 5675,
Little Rock 72215 — *CHAIRMAN*
Boyce W. West, P. O. Box 220,
Clarksville 72830

MEDICAL SCHOOL COMMITTEE

Kemal Kutait, 1120 Lexington,
Fort Smith 72901
Boyce West, P. O. Box 220,
Clarksville 72830
James L. Gardner, 125 Greenwood,
Hot Springs 71901
Max G. Cheney, 353 East 8th,
Mountain Home 72653

PRIVATE INSURANCE REVIEW COMMITTEE

Austin Grimes, P. O. Box 5270,
Little Rock 72215 — *CHAIRMAN*

Robert Bransford, P. O. Box 778,
Texarkana 75502
George W. Warren, P. O. Box 3,
Smackover 71762
James Guthrie, 353 Cash Road,
Camden 71701
Robert Miller, 616 Elm,
Helena 72342
Boyce W. West, P. O. Box 220,
Clarksville 72830
Mahlon O. Maris, P. O. Box 759,
Harrison 72601
Paul Cornell, 500 South University,
Little Rock 72205
Raymond V. Biondo, P. O. Box 921,
North Little Rock 72115
Robert F. McCrary, 505 West Grand,
Hot Springs 71901
R. Jerry Mann, 416 Main,
Arkadelphia 71923
W. P. Phillips, P. O. Box 3507,
Fort Smith 72913
William W. Biggs, Helena Hospital,
Helena 72342
Jim E. Lytle, P. O. Box 2116,
Batesville 72501

Nathan L. Poff, 401 West Searcy,
Heber Springs 72543
J. Larry Lawson, #1 Medical Drive,
Paragould 72450
Ralph F. Joseph, Highway 25 West,
Walnut Ridge 72476
Richard N. Pearson, 1223 West Walnut,
Rogers 72756
James E. Young, P. O. Box 707,
McGehee 71654

HOUSE COMMITTEE

AD HOC LEGISLATIVE ASSISTANCE COMMITTEE

Gaither C. Johnston, 99 Little Pine,
Hot Springs 71901 — *CHAIRMAN*
William S. Orr, Jr., 500 South University,
Little Rock 72205
William N. Jones, 500 South University,
Little Rock 72205
Jimmie J. Magic, P. O. Box 1284,
Conway 72032
James L. Gardner, 125 Greenwood,
Hot Springs 71901
W. P. Phillips, P. O. Box 3507,
Fort Smith 72913 (Ex-officio)

MEDICAL SERVICES REVIEW COMMITTEE

Term Expires	Committee Members (Name and Address)	Specialty Represented
1981 April 30	James R. Weber, P. O. Box 188, Jacksonville 72076	Fam. Pr.
1979	Kenneth E. Lilly, 1120 Lexington, Fort Smith 72901	Fam. Pr.
1979	Bruce E. Schratz, 1801 Maple, North Little Rock 72114	Fam. Pr.
1981	Jack T. Fendley, 2500 McCain Place, North Little Rock 72116	Int. Med.
1979	Van Smith, P. O. Box 1077, Harrison 72601	Int. Med.
1981	Rhys A. Williams, Box 1118, Harrison 72601	Surgery
1980	J. Warren Murry, 1749 North College, Fayetteville 72701	Surgery
1979	Raymond A. Irwin, Jr., 1421 Cherry, Pine Bluff 71601	Surgery
1980	Bill F. Hefley, P. O. Box 5675, Little Rock 72215	Allergy
1979	Wayne B. Glenn, 500 South University, Little Rock 72205	Anes.
1980	Carl J. Raque, 500 South University, Little Rock 72205	Derm.
1980	Joe H. Lyford, Jr., P. O. Box 1107, Russellville 72801	Oph.
1980	Harry L. Rounsaville, 500 South University, Little Rock 72205	Oto.

Term Expires	Committee Members (Name and Address)	Specialty Represented
1981 April 30	Robert F. McCrary, 505 West Grand, Hot Springs 71901	Ob-Gyn
1979	Robert Watson, 750 Medical Towers Bldg., Little Rock 72205	Neurosurgery
1979	W. Payton Kolb, 230 Medical Towers Bldg., Little Rock 72205	Psychiatry
1981	Harry M. Harmon, 1014 West Poplar, Rogers 72756	Pediatrics
1980	John E. Bell, 1300 South Main, Searcy 72143	Radiology
1981	Douglas E. Young, 9600 West 12th, Little Rock 72205	Pathology
1981	James H. Buie, 1500 Dodson, Fort Smith 72901	Orthopedics
1979	R. Teryl Brooks, Jr., 1604 West 42nd Avenue, Pine Bluff 71603	Urology
—	Charles F. Wilkins, Jr., 3105 W. Main Place, Russellville 72801	(Chairman)
—	George F. Wynne, 113 West Cypress, Warren 71671	(President)
—	A. E. Andrews, Jr., P. O. Box 689, Texarkana 75501	(President-elect)
—	Elvin Shuffield, 110 Doctors Park Building, Little Rock 72205	(Secretary)
—	John P. Burge, Lake Village Clinic, Lake Village 71653	(Council Chairman)

Sub-Committee Representative

(Representatives on call to meet with Committee
as needed when claims in specialty field
are considered)

Sub-Committee Representative

Carl L. Williams, 522 South 16th,
Fort Smith 72901

T. J. Smith, 409 North University,
Little Rock 72205

**Sub-Specialty
Represented**

Thoracic Surgery

Gastroenterology

Thomas H. Allen, 413 North University,
Little Rock 72205

John C. Schultz, 10001 Lile Drive,
Little Rock 72205

Kelsy J. Caplinger, III, P. O. Box 5675,
Little Rock 72215

G. Doyne Williams, 4301 West Markham,
Little Rock 72201

W. R. Johnson, Jr., D.D.S., 404 Med. Arts Bldg.,
Hot Springs 71901

Plastic Surgery

Pulmonary Dis.

Pediatric Allergy

Cardiovascular Surgery

Oral Surgery

**PROFESSIONAL RELATIONS COMMITTEE
ARKANSAS MEDICAL SOCIETY**

District	Name of Committee Member	Address
1	F. E. Utley, M.D.	515 North Sixth, Blytheville 72315
	B. P. Raney, M.D.	403 East Matthews, Jonesboro 72401
	T. Murray Ferguson, M.D.	200 South Rhodes, West Memphis 72301
2	C. W. Jackson, M.D.	P. O. Box C, Judsonia 72081
	Jim Lytle, M.D.	P. O. Box 2116, Batesville 72501
	Charles F. Wells, M.D.	601 South Moose, Morrilton 72110
3	John M. Hestir, M.D.	220 West Gibson, DeWitt 72042
	Carl E. Northcutt, M.D.	Route 1, Box 21-D, Stuttgart 72160
	Dwight W. Gray, M.D.	110 West Chestnut, Marianna 72360
4	Howard Harris, M.D.	207 South Elm, Dumas 71639
	L. R. Turney, M.D.	101 South Third, McGehee 71654
	George Roberson, M.D.	1708 Doctors Drive, Pine Bluff 71603
5	C. E. Tommey, M.D.	412 North Washington, El Dorado 71730
	L. V. Ozment, M.D.	353 Cash Road, Camden 71701
	Joe F. Rushton, M.D.	219 North Washington, Magnolia 71753
6	Donald Duncan, M.D.	P. O. Box 778, Texarkana 75501
	James G. Martindale, M.D.	116 South Main, Hope 71801
	James Armstrong, M.D.	P. O. Box 397, Ashdown 71822
7	C. F. Peters, M.D.	1420 Potts, Malvern 72104
	Robert F. McCrary, M.D.	505 West Grand, Hot Springs 71901
	Thomas M. Durham, Jr., M.D.	505 West Grand, Hot Springs 71901
8	*Richard M. Logue, M.D.	601 North University, Little Rock 72205
	John McCollough Smith, M.D.	4000 Woodlawn, Little Rock 72205
	James Rasch, M.D.	10001 Lile Drive, Little Rock 72205
9	Friedman Sisco, M.D.	700 North Mill, Springdale 72764
	Charles A. Ledbetter, M.D.	224 Erie, Harrison 72601
	James L. Pickens, M.D.	P. O. Box 128, Rogers 72756
10	Samuel Landrum, M.D.	522 South 16th, Fort Smith 72901
	David M. Williams, M.D.	809 West Main Place, Russellville 72801
	Boyce West, M.D.	P. O. Box 220, Clarksville 72830

*Chairman





MRS. WALTER MIZELL

Benton

President 1978-1979

Arkansas Medical Society Auxiliary

ARKANSAS MEDICAL SOCIETY AUXILIARY CONVENTION REPORT

Pre-Convention Board Meeting

The pre-convention board meeting of the Arkansas Medical Society Auxiliary was held in the President's Suite at the Arlington Hotel in Hot Springs at 2:30 P.M. on April 16, 1978. The president, Mrs. Kemal Kutait, called the meeting to order and Mrs. John McCollough Smith gave the invocation. There were twenty-five members present. Mrs. Kutait introduced a guest, Mrs. Manuel Bergnes, who is president-elect of the American Medical Association.

The minutes of the mid-winter board meeting were read and approved. Mrs. Jack Downs gave the treasurer's report. There are 867 paid members.

Mrs. Charles Wilkins, Finance Committee Chairman, presented the budget for the coming year. Mrs. Wilkins moved that the budget be recommended to the membership to be accepted as presented. The motion was seconded by Mrs. Gordon Oates and passed.

Mrs. Kutait read a note from Mrs. Curtis Clark and read a letter from Dr. Payton Kolb thanking the Auxiliary for their help and support. Mrs. Kutait urged all members to read the letter and materials concerning the malpractice petition.

AMA-ERF Chairman, Mrs. Deno Pappas, reported she had given Dean Bruce a check for \$15,000 at the opening session of the House of Delegates.

Legislative Chairman Mrs. Payton Kolb discussed the malpractice petition and participation

by Auxiliary members.

Other reports were given by Vice Councilor to Southern Medical Association Auxiliary, Mrs. Curry Bradburn; Student American Medical Association Auxiliary Liaison Chairman, Mrs. Paul Cornell; and Historian-Archivist, Mrs. Frank Padberg. Loan fund reports were given by Mrs. Louis Hundley, Mrs. Art Martin and Mrs. Paul Cornell.

Mrs. Kutait expressed her appreciation to the board for their cooperation and help during her year as president.

Mrs. Hundley suggested a note be sent from the Auxiliary to Mrs. Whitehead who is now in a nursing home.

First General Session

The first general session of the 54th Annual Convention of the Arkansas Medical Society Auxiliary was held in the Venus Suite of the Arlington Hotel in Hot Springs at 9:30 A.M. on April 17, 1978. The president, Mrs. Kemal Kutait, called the meeting to order and Mrs. Frank Padberg gave the invocation. Mrs. Kutait led the membership in the Auxiliary pledge.

Mrs. Kutait introduced C. C. Long, Executive Vice President of the Arkansas Medical Society, who talked to the membership about the petition to get the malpractice amendment on the ballot.

Honored guests—Mrs. Manuel Bergnes of Norristown, Pennsylvania, who is president-elect of the American Medical Association Auxiliary, and Mrs. M. Bruce Martin of Huntington, West Virginia, who is president of the Auxiliary to the Southern Medical Association—were introduced by Mrs. Kutait.

The Welcoming Address was given by Mrs. Raymond Peeples of Garland County and the response was given by Mrs. John McCollough Smith of Pulaski County.

Roll call and seating of delegates was by the secretary, Mrs. Joe Lyford. A quorum was declared present by the parliamentarian Mrs. Curry Bradburn.

Mrs. Gordon Oates gave a report on convention. Mrs. Mason Lawson moved to dispense with the reading of the minutes. Mrs. Gordon Oates seconded and the motion passed. The Treasurer's report was given by Mrs. Jack Downs.

Mrs. Kutait read a letter from Payton Kolb thanking the Auxiliary for their support. Mrs. Curry Bradburn reported there had been 18 present at the past presidents' breakfast and they

gave a contribution to the Martha Harding Gann Memorial Fund in memory of Mrs. P. H. Phillips and in honor of Mrs. Curtis W. Jones, Sr.

Mrs. Kutait gave the president's report. Standing committee reports were given by Mrs. Deno Pappas, AMA-ERF Chairman; Mrs. Jack Downs for the Finance Committee; Mrs. Payton Kolb, Legislative; Mrs. Asa Crow, Members-at-Large; Mrs. Walter Mizell, Organization and Membership, and Mrs. Curtis Stover, Project Bank Coordinator.

Mrs. Art Martin reported for the Dr. and Mrs. W. R. Brooksher Loan Fund and displayed Sebastian County's project, the book "Physicians and Medicine". Mrs. Paul Cornell gave reports from the Martha Harding Gann Memorial Fund and as Liaison Officer to the Student American Medical Association Auxiliary.

District Vice Presidents reporting were Mrs. A. E. Andrews, Southwest; Mrs. Ray Jouett, Southeast, and Mrs. Larry Lawson, Northeast.

The report of the Nominating Committee will be given at the second general session.

Mrs. John McCollough Smith made the following motion: "I move that we go on record as expressing our appreciation and commendation to Sebastian County Medical Auxiliary and Mrs. Art Martin, its Historian and Senior Editor, for the compilation and publication of the book, 'Physicians and Medicine, Crawford and Sebastian Counties, Arkansas, 1817-1976', which has been the culmination of its bi-centennial project and which has so enriched our history of medicine in Arkansas". The motion was seconded by Mrs. Payton Kolb and passed.

The following were elected to serve on the Nominating Committee: Mrs. Asa Crow and Mrs. A. E. Andrews from the Board of Directors and Mrs. Mason Lawson and Mrs. Lynn Harris from the House of Delegates. There were no other nominations and those were elected by acclamation. Mrs. Kemal Kutait will serve as chairman.

Mrs. Mason Lawson moved that the president be allowed to appoint delegates and alternates to the 1978 convention of the American Medical Association Auxiliary to be held in St. Louis. The motion passed.

Following the drawing for door prizes, Mrs. Lynn Harris moved the meeting was adjourned.

Second General Session

The President, Mrs. Kemal Kutait, called the meeting to order. The invocation was given by

Mrs. Ken Lilly, Chaplain. Roll call, with 58 present, and the seating of delegates followed. A quorum was declared present. Mrs. Kutait acknowledged the special guests, Mrs. Bergnes and Mrs. Martin.

Convention announcements were made by the general chairman, Mrs. Gordon Oates, and by the registration chairman, Mrs. E. K. Clardy, who reported 108 members registered. Minutes of the First General Session, April 17, were read by the Acting Recording Secretary, Mrs. Carl Wilson, and were approved as read.

The reports of County Presidents followed with the regional vice presidents serving as moderators.

Northeast Vice President, Mrs. Larry Lawson: County presidents present and reporting were:

Greene-Clay: Mrs. Jack Richmond

Crittenden: Mrs. C. Herbert Taylor for Mrs. H. C. Lanford

Craighead-Poinsett: Mrs. Jerry Blaylock

Northwest Vice President, Mrs. McDonald Poe was absent. Reports were heard from the following counties:

Pope: Mrs. Charles Wilkins, Jr., reporting for Mrs. Joe Cumpler

Sebastian: Mrs. Edgar A. Gedosh

Washington: Mrs. James Capps reporting for Mrs. Jim Haynes

Boone: Mrs. Henry Kirby reporting for Mrs. Donald Vowell

Benton: Mrs. Kutait read the report from Mrs. John Rollow

Southeast Vice President, Mrs. Ray Jouett. Counties reporting were:

Bowie-Miller: report read by Mrs. Kutait for Mrs. Fred Hutcheson

Garland: Mrs. Thomas Durham for the president, Mrs. Paul Thompson

Hempstead: Mrs. J. W. Branch, Sr.

Union: Mrs. C. D. Cyphers, a new president

It was reported that at the annual meeting in Dallas in November 1977, the Auxiliary to the Southern Medical Association awarded the Auxiliary to the Boone County Medical Society the following:

1. First place for the best exhibit in "Research and Romance of Medicine" from a county Auxiliary of less than 75 members (\$10.00).
2. First place for "the most outstanding exhibit either from the county or state", Dr. and Mrs. Milford O. Rouse Trophy.

The exhibit was compiled by Mrs. Henry V. Kirby, a member of the Boone County Auxiliary.

Her subject was "The Amazing William A. Hudson, M.D." Mrs. David Barclay, Councilor to Southern Medical Association, displayed the silver loving-cup trophy, which shall remain with the Boone County Auxiliary for one year.

Mrs. Paul Cornell took the floor to announce that it is most important all the county auxiliaries appoint a legislative chairman for the coming year.

The report of the Nominating Committee was read by the chairman, Mrs. Carl Wilson. Other members of the committee were Mrs. Raymond Peeples, Mrs. Ray Jouett, Mrs. Charles Wilkins and Mr. Ken Lilly. The slate of officers for 1978-1979:

President: Mrs. Walter Mizell, Benton

President-elect: Mrs. Frank E. Morgan, North Little Rock

Secretary: Mrs. Jacob Ellis, El Dorado

Treasurer: Mrs. Ray Jouett, Little Rock

Regional Vice Presidents:

Mrs. Asa Crow, Paragould

Mrs. R. C. Goodman, Fort Smith

Mrs. W. J. James, Pine Bluff

Mrs. Robert Lewis, Hot Springs

The officers as proposed by the nominating committee were elected unanimously.

Mrs. Mizell announced that there would not be a post-convention board meeting and asked all county presidents and committee chairmen to get their workbook packets from her.

The report of the Courtesy Resolutions Committee was graciously made by Mrs. Louis Hundley, Chairman.

A final drawing for the lovely door prizes furnished by each county auxiliary was conducted by the convention chairman, Mrs. Gordon Oates.

The business meeting was adjourned.

A luncheon held at the Le Mirabelle Restaurant concluded Auxiliary convention activities. Mrs. Kutait announced that a contribution to AMA-ERF was made in honor of our special guests, Mrs. Bergnes and Mrs. Martin, instead of flowers. Favors at each place setting, a pewter "Razorback tusk" made by Mrs. George Wynne from a mold of a wild boar tusk, was enjoyed by all.

Mrs. Louis Hundley led the membership in a standing ovation of appreciation for Virginia Kutait, marking a great year for our Auxiliary and paying special tribute to her from all past presidents.

Installation of officers was by Mrs. Curtis Jones, Sr., of Saline County Auxiliary, the local Auxiliary

of the new president. Mrs. Jones reminisced that the Auxiliary to the Arkansas Medical Society was organized in 1925. She became a member in 1926 and was State president in 1937-38. Forty years ago today, she was the outgoing president. Mrs. Mizell closed the convention with an inspiring message.

Convention Awards, 1978

Doctor's Day:

Auxiliary over 50 members:

First Place: Garland County

Second Place: Sebastian County

Honorable Mention: Pulaski County

Auxiliary under 50 members:

First Place: Boone County

Second Place: Greene-Clay County

Honorable Mention: Craighead-Poinsett County

Research and Romance in Medicine:

First Place: Sebastian County

Membership:

Hempstead: 100%

Hot Spring: 100%

Pulaski: Highest increase

Boone County: Highest percentage increase

AMA-ERF:

Largest percentage increase in contributions:

Sebastian County 233%

Largest amount in contributions:

First Place: Pope, \$3,000

Second Place: Sebastian

Largest per capita contribution:

First Place: Pope-Yell

Honorable Mention: Garland

PRESIDENT'S REPORT

Mrs. Kemal Kutait

President, 1977-1978

Serving as your president this year has been a privilege and an honor. It has been an exciting experience to visit the county auxiliaries and hear of the accomplishments that have been achieved. The support of my fellow officers and committee chairmen has been gratifying. The aid and cooperation of the Medical Society staff was invaluable.

Last April was the beginning of a very busy year. New State Directories and updated workbooks were sent to all new county presidents and committee chairmen. In June, I met with the finance committee in Russellville to review the budget. This was followed by the AMA Auxiliary Convention in San Francisco where I attended all of the House of Delegates meetings and various other functions. I also attended the Leadership Conference in Chicago, the Southern Convention in Dallas, and the Southern Regional Meeting in Atlanta. There were excellent training sessions as well as valuable idea exchanges.

In Arkansas, I have driven over 4,000 miles attending meetings, visiting counties and working with committees on Society and Auxiliary matters. There were two preliminary planning meetings for the Rural Health Conference in Little Rock. At that conference, we staffed a table for all physicians registering for the meeting. I attended meetings of the State Medical Society, attended the Project Bank Workshop, spoke to the Medical Students and their wives at the State Physicians' Opportunity Fair held at the University of Arkansas Medical Center. I moderated a panel discussion on "Financial Planning for the Professional" and represented the Auxiliary as a member of the Arkansas Medical Political Action Committee and had two state board meetings.

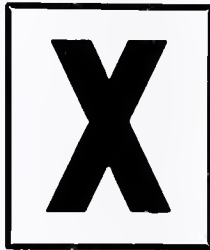
The Arkansas Medical Society Auxiliary made twenty-one student loans totaling over \$20,000 from our three health career loan funds. The AMA-ERF Chairman presented a check to the Dean of the University of Arkansas Medical School for over \$15,000. We have two re-organized counties, two others in the making and a 10% overall increase in membership.

We have sent letters and petitions to every member of the Auxiliary, urging them to participate in the drive to place the malpractice amendment on the ballot.

It *has* been a *busy* year—a rewarding year! Acquaintances have become friends—faces have become familiar—I appreciate the honor of being your president—and I thank you all for your devotion, support and your enthusiasm.



WHATEVER YOUR POLITICS



VOTE ARK-PAC

A new political party?

Hardly. The Arkansas Medical Political Action Committee is a voluntary non-profit, unincorporated group whose membership is open to all physicians, their spouses, and other interested people.

Ark-Pac encourages its members to work actively for good government through the established political party of their choice, but Ark-Pac's material resources may be concentrated for the benefit of worthy candidates from either party, thus reinforcing our efforts toward the basic objective — electing the best possible public representation.

Ark-Pac is your opportunity to join a winning team.

The time is now! Send your dues payment. Ark-Pac achieves bigness by transforming small individual contributions, which might otherwise go unnoticed, into a concerted political force.

Voluntary political contributions for Ark-Pac and Am-Pac (the American Medical Political Action Committee) may be sent to Ark-Pac, Post Office Box 1208, Fort Smith, Arkansas 72902. \$35 is suggested for family membership (physician and spouse) and \$25 for an individual. Sustaining membership is \$99.

If your practice is incorporated, Ark-Pac and Am-Pac voluntary political contributions should be written on a PERSONAL CHECK. Contributions are not limited to the suggested amount. Neither the AMA nor the Arkansas Medical Society will favor or disadvantage anyone based upon the amounts of or failure to make PAC contributions. Copies of Ark-Pac and Am-Pac reports are filed with the Federal Election Commission and are available for purchase from the Federal Election Commission, Washington, D.C. Contributions are subject to the limitations of FEC Regulations, Sections 110.1, 110.2 and 110.5. (Federal regulations require this notice.)

Cancer Immunology

Nicholas P. Lang, M.D., James Y. Suen, M.D., and Kent C. Westbrook, M.D.*

The relationship between cancer and the immune response is receiving coverage in the scientific and lay press. An overall review of the current concepts relative to cancer immunology is justified. This review will briefly cover basic immunology relative to cancer, applications of immunologic concepts to oncology, and the current status of immunotherapy.

I. BASIC IMMUNOLOGY

The immune system is currently assigned three roles: (1) defense, (2) homeostasis, and (3) surveillance. Defense implies protection from invasion by microorganisms of all types (virus, bacteria, fungi, and parasites). The immune system maintains homeostasis by the removal of damaged cells, e.g., splenic destruction of abnormal red blood cells. Surveillance refers to detection and removal of abnormal and potentially malignant cells.

The immune system responds to foreign material (*antigen*) with an *immune response* which consists of three portions — the afferent limb, the

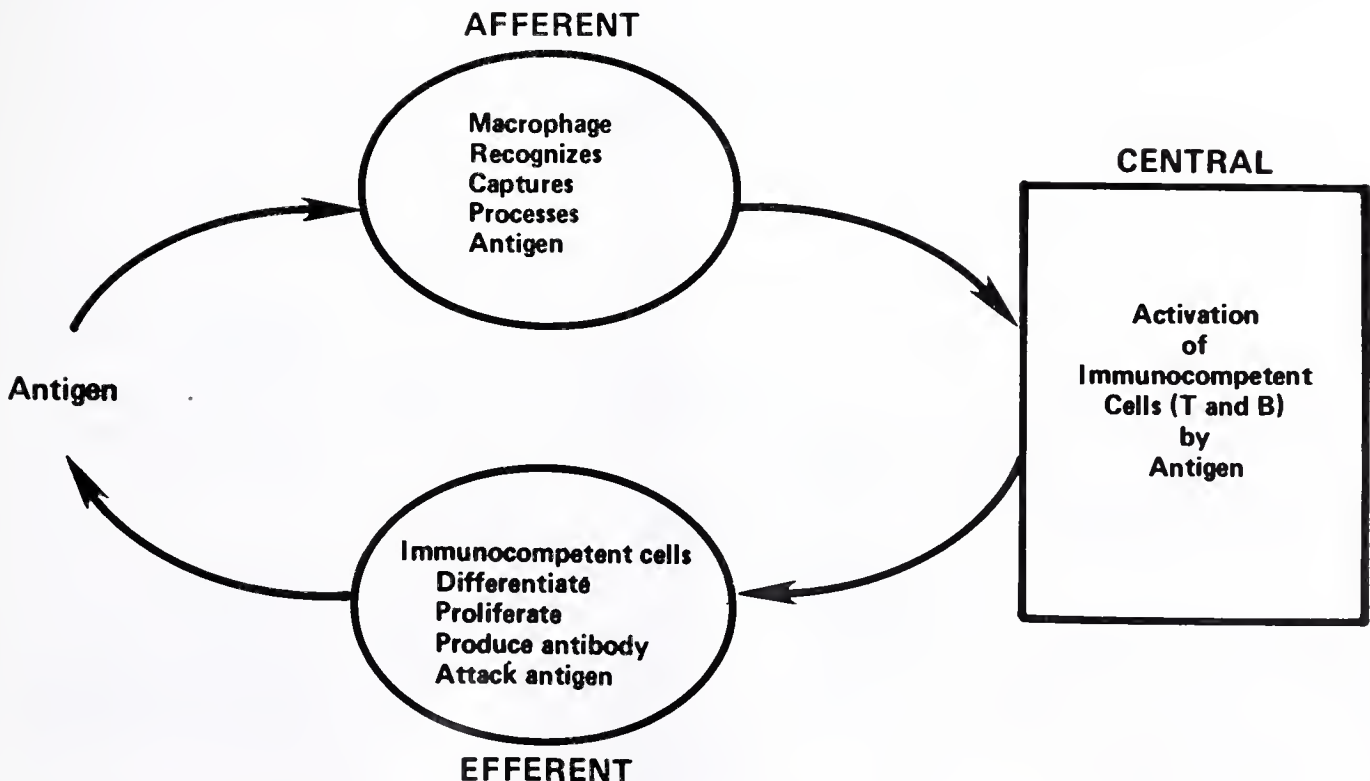
central response, and the efferent limb. The afferent portion includes the recognition, capture and processing of antigen by macrophages. The central response involves the activation of an immunocompetent cell population by the antigen. The differentiation, proliferation, and attack on the antigen by these immunocompetent cells completes the response (Figure 1). The response involves both *cellular* and *humoral* components.

While the immune response involves many organs, tissues, cells and humoral factors, the lymphocytes play a crucial role. Lymphocytes can now be divided into three categories by immunologic tests. These are called *T-lymphocytes* (thymus), *B-lymphocytes* (bursa), and *Null-lymphocytes* (neither T nor B). T-lymphocytes are under thymic control and mediate the cellular response. The cellular response is classically recognized as that reaction responsible for delayed hypersensitivity, e.g., PPD skin-test. With regard to cancer, the cellular response is felt to be more important than the humoral response and is mediated by T-lymphocytes or "killer

*University of Arkansas for Medical Sciences, 4301 West Markham, Little Rock, Arkansas 72201.

Figure 1

Immune Response



lymphocytes." The humoral response is produced by B-lymphocytes (named for the Bursa of Fabricius in chickens). It involves immunoglobulins and specific antibodies produced by plasma cells (Figure 2). The humoral response is probably of secondary importance in cancer immunity.

II. IMMUNOLOGY AND CANCER

There are many clinical and experimental observations which suggest immune system is an important factor in the development or maintenance of cancer in a patient. Clinical observations which imply a relationship include the following:

1. Cancer incidence is increased in populations which decreased cellular immunity. For example, immunosuppressed transplant patients have an increased incidence of certain malignancies (reticulum cell sarcoma) that is one hundred times that of the general population of the same age.
2. Spontaneous regression of carcinoma in man has been documented. Tumors in which this has occurred include carcinoma of kidney, neuroblastoma, malignant melanoma, and chorio-carcinoma.
3. Regression of metastatic lesions after removal of primary tumors has been documented.
4. Tumors may return long after an apparent cure. We have seen melanoma recur after over 20 tumor-free years.
5. The occurrence of a lymphocytic infiltrate

around a tumor or its draining nodes usually carries an improved prognosis.

The exact meaning and mechanisms of these clinical observations are unknown, but suggest a definite relationship between the immune system and malignancies.

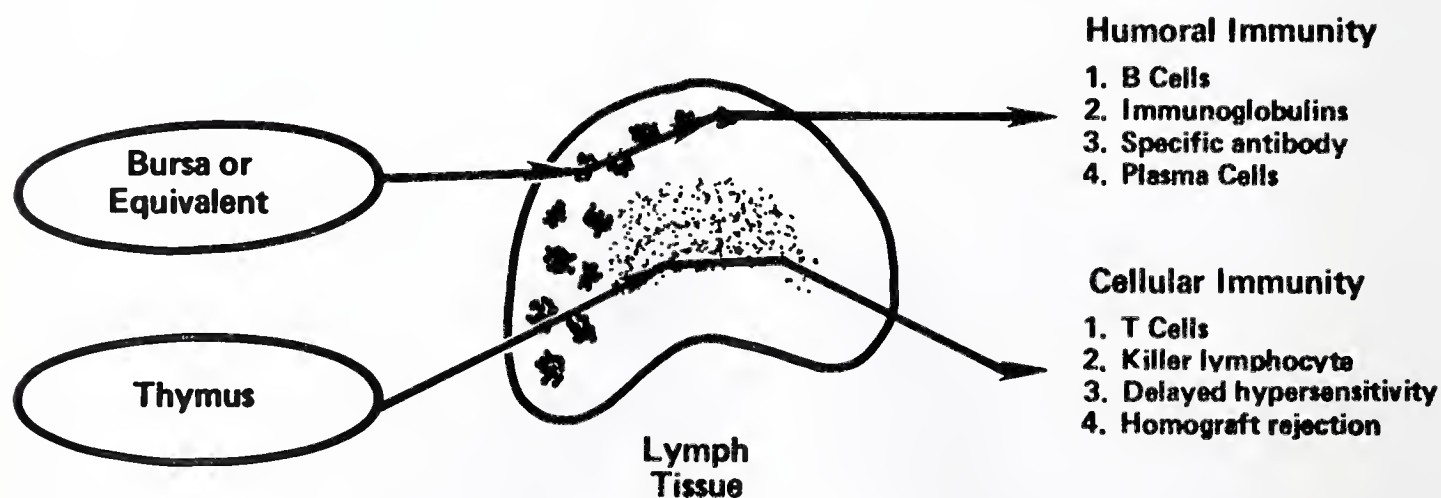
Experimentally, tumor immunology has been more clearly delineated. For example, a tumor may be transplanted into a mouse and will grow. If that tumor is removed when small and a small amount of the same tumor again is re-implanted, it will be rejected by the mouse (Figure 3). Antibodies and lymphocytes active against that particular tumor can be demonstrated in the sensitized animal. Thus, an immunologic response can be demonstrated in animal models without question.

The identification of *tumor specific antigens* and *antibodies* in man has been difficult. Some *tumor associated antigens* have been identified, for example, CEA (carcino embryonic antigen). The clinical usefulness of this and similar tests is still unclear.

Specific *antibodies* to tumor have been identified in melanoma and other tumor patients. In the patient with early melanoma, antibodies to the melanoma usually exist in the patient's serum and circulating lymphocytes are cytotoxic for melanoma cells. However, in a patient with extensive melanoma, antibody titer is very low and lymphocytes are cytotoxic to melanoma cells only after extensive manipulation. This suggests that

Figure 2

T and B Cell Function



an immune response is elicited by melanoma but is overwhelmed by large amounts of tumor or that a large amount of tumor antigens are present and binding the antibodies.

Currently, evaluation of the immune system is partially available in all patients and may be of value in treatment planning and prognostication. Tests being evaluated are directed primarily at the cellular component (T-lymphocyte function). Pertinent tests include: 1. Delayed hypersensitivity skin testing to recall antigens (PPD, mumps, etc.), 2. Skin response to a new antigen (DNCB), 3. Lymphocyte count with T- and B-cell enumeration, and 4. Lymphocyte function tests in cell culture. It has been fairly well documented that patients who have a poor response to skin testing (delayed hypersensitivity and DNCB) usually have a poor prognosis. Conversely, patients with a good response may have a good prognosis.

In brief, there is good evidence that the immune system is important in the development and course of cancer in man. Furthermore, testing of the immune system is possible and may have clinical application.

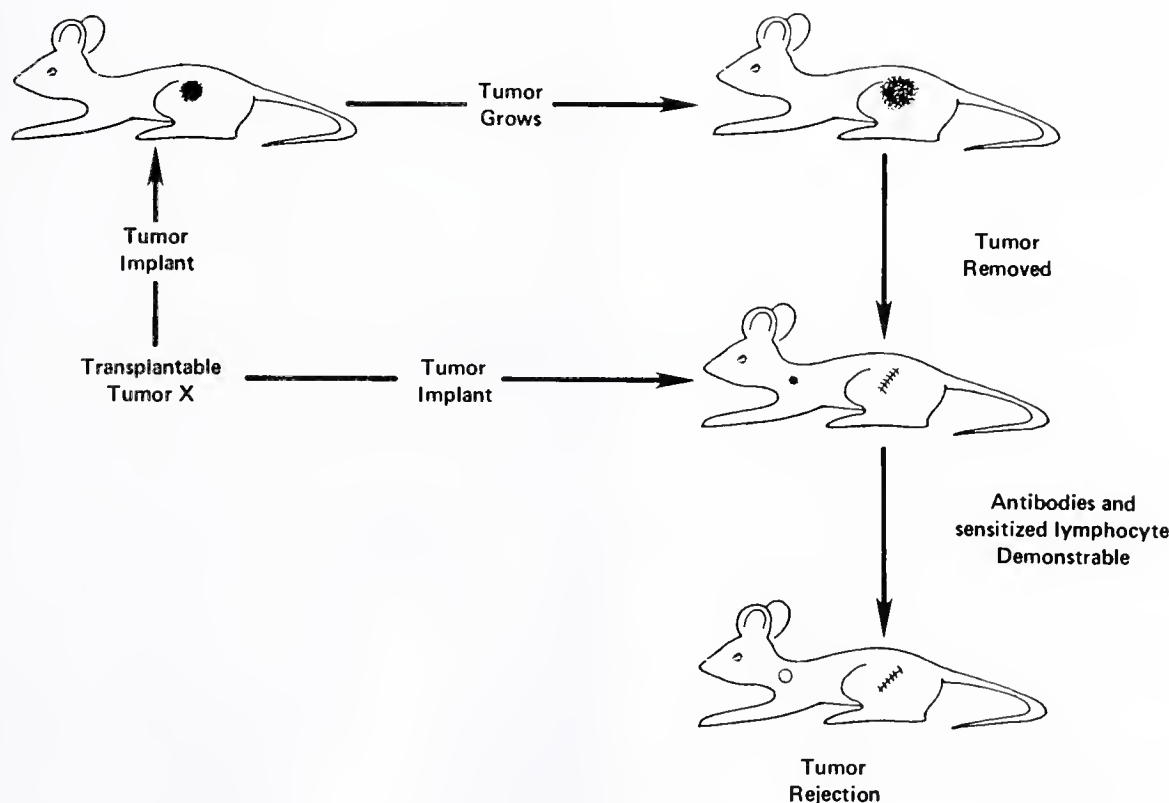
III. IMMUNOTHERAPY IN MAN

As knowledge of the immune response to cancer has increased, therapeutic attempts to manipulate the response have developed. *Cancer immunotherapy* that is based on these concepts:

1. Cancer elicits an immune response.
2. Control of cancer depends on an adequate immune response.
3. Immunotherapy can bolster the immune response and increase the chance of tumor control.

Immunotherapy may be active (agent given to patient to stimulate his own immune system), passive (something given to patient from sensitized donor) or combinations. In general, the only immunotherapy in wide testing at this time is *active nonspecific immunotherapy*. BCG (*Bacillus Calmette-Guerin*) is the agent most frequently used. Administration of BCG is believed to provide a foreign substance which produces non-specific stimulation of the immune system. The immune system is then able to better fight cancer in the patient. BCG has been injected directly into recurrent melanoma lesions with regression of 80% of injected nodules and regression of un-

Figure 3
Experimental Tumor Immunity



injected nodules in 20% of patients. BCG has also been used intra-dermally to provide systemic stimulation in leukemia, melanoma, and other lesions. Most investigators feel that some beneficial effect is obtained with BCG administration.

It has been shown that the use of immunotherapy is ineffective against large amounts of tumor. BCG has been found to be ineffective in animal studies in rejecting tumor if there are more than 10^6 tumor cells (about 1mm diameter). The tumor burden should be reduced by conventional treatment modalities before immunotherapy can be effective. This is the rationale for using surgery, radiotherapy or chemotherapy in sequence or combination with immunotherapy.

Adverse effects of immunotherapy may occur, such as the stimulation of blocking antibodies which would enhance tumor growth or BCG and c-parvum could produce local or systemic toxicity.

SUMMARY

The following conclusions seem justified after reviewing the current knowledge regarding tumor immunology:

1. In animal models, tumor cells produce antigens which elicit an immune response.
2. Clinical observations in man suggest that

this same sequence occurs.

3. Currently, the detection of tumor antigen in human cancer is of value in the evaluation of certain cancers, e.g., CEA in colon cancer, but has very limited practical use so far.

4. The host response to tumors may result in tumor rejection and/or destruction.

5. Immunotherapy involves an attempt to manipulate the host response to tumor cell antigens by stimulation of the immune system using specific, nonspecific, or adaptive methods. BCG would be an example of a nonspecific immunostimulant.

6. Immunotherapy is effective only with small amounts of tumor cells and should be used primarily with conventional treatment modalities.

7. The value of immunotherapy is unproven and must be determined by prospective controlled clinical trials.

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Management of Children with Diabetic Ketoacidosis with Continuous Intravenous Low-Dose Insulin Therapy

Robert H. Fiser, M.D., and M. Joycelyn Elders, M.D.*

A new form of therapy has recently been advocated in the literature for the treatment of diabetic ketoacidosis in both adults and children.^{1,2} It is our feeling that this form of therapy and the comments about it should be brought to the attention of the Arkansas Medical Society.

Recent studies have suggested that continuous low dose insulin treatment for diabetic ketoacidosis is consistent with fewer complications and less morbidity and mortality than are the usual forms of therapy. We have recently had experiences at the University of Arkansas Medical Sciences Campus to suggest that this is valid. The established procedures for children with ketoacidosis and their treatment is a dose of 2-4 units of regular insulin per kilogram with half given bolus intravenously and half subcutaneously or intramuscularly and repeated at regular intervals. These doses increase the plasma insulin concentrations to super physiologic levels and are associated with rapid falls in plasma glucose but slower changes in the CSF glucose resulting in a significant incidence of relative hypoglycemia and cerebral edema. The low dose infusion therapy is aimed at more physiologic levels of plasma insulin. It is beyond the scope of this commentary to discuss the pathophysiology of insulin action, but suffice it to say that values of plasma insulin above 100-150 microunits/ml do not further increase glucose utilization nor diminish lipolysis but markedly increase the risk of hypoglycemia and cerebral edema.

The acute problem and primary aims of therapy in the treatment of diabetic ketoacidosis are shown in Table 1. Most patients with ketoacidosis have some degree of dehydration and electrolyte depletion. The initial infusion should be physiologic saline followed with a multielectrolyte solution containing potassium. Potassium and glucose containing fluids should begin quite early as it is extremely rare in childhood to be faced with renal shut down or hyperkalemia, and

children have small glycogen stores and are at greater risk for the development of hypoglycemia. A guide in the management of the insulin and fluid therapy is outlined in Tables 2 and 3. This therapy allows you to lower the blood sugar slowly over a period of time and decrease the risk of hypoglycemia and cerebral edema.

Table 1.
MANAGEMENT OF DIABETIC KETOACIDOSIS
Acute Problem

- 1. Hyperglycemia, glucosuria
- 2. Dehydration and loss of electrolytes both extracellular and intracellular with azotemia
- 3. Increased lipid mobilization and ketonuria
- 4. Metabolic acidosis with buffer depletion and hyperuricemia

- AIMS OF INITIAL THERAPY**
- 1. Correct shock, acidosis and dehydration
 - 2. Decrease glucosuria and fat mobilization
 - 3. Treatment of underlying infection
 - 4. Oral feedings as quickly as possible

CALCULATION OF FLUID AND ELECTROLYTE REQUIREMENT

	Water cc/kg	Sodium Potassium Chloride Millequivalents/kg		
Deficits	100	8-10	6-10	6
Maintenance	100-3x	3-	3-	2-3
Total	150-200	11-13	9-13	8-10

x = Age in years

- Table 2.**
USUAL INSULIN DOSE
- Adults:* Prime: 15 u
Continuous: 15 u/hr
- 1. *Children:* Prime: 0.1 unit/kg
Continuous: 0.1 unit/kg/hr
 - 2. Blood Glucose < 300 mg%
Add 5% Glucose Solution
 - 3. Blood Glucose < 250 mg%
 - a) Acetone (—) may D.C. Infusion
 - b) Acetone (+) Continue 5% Glucose Infusion + Insulin at the rate of (0.02 - 0.05 units/kg/hr)
 - 4. Glucose: Insulin
(2 - 4 gms glucose/unit Insulin)

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Table 3.
MANAGEMENT OF DIABETIC KETOACIDOSIS
INSULIN

Prime: 2-4 units or 0.1 unit/kg I.V. stat followed by 0.1 kg/hr to start immediately.

Continuous: 0.1 u/kg/hr. When blood sugar ↓ below 250 mg%, reduce to 0.02-0.05 u/kg/hr.

FLUIDS AND ELECTROLYTES

1. Initial infusion to establish urine flow and improve circulation — 20-25 cc/kg of Isotonic saline over 45-60 minutes.
2. 2-6 hours — 1/2 of the calculated maintenance water and electrolyte requirements for first 24 hour period. May give fluid as D₅E₇₅.
3. If blood sugar above 500 mg%, may give normal saline with 40 mEq/L of K₂PO₄ added.
4. If CO₂ less than 5 or arterial pH of less than 7.0: NaHCO₃ — 1.5-2.0 mEq/kg or 500 mg/kg in I.V. fluids.
5. 6-12 hours — 1/4 of calculated fluid and electrolyte.
6. 12-18 hours — 1/8 of calculated fluid and electrolyte requirements.
7. 18-24 hours — Same as 12-18 or give patient P.O. fluids if tolerated.

Preparation of the continuous insulin infusion drip is shown in Table 4. It should be made up

Table 4.
PREPARATION OF CONTINUOUS INSULIN
INFUSION DRIP

250 ml Isotonic Saline

+

50 units Regular Insulin

+

3 ml 25% Albumin

Prepare every 6 hours

fresh every six hours and run piggyback with the intravenous fluids such that it can be regulated closely. Albumin is not essential but may be used to diminish the binding of insulin to the I.V. bottles and tubing.

The low dose insulin therapy provides a more stabilized approach to the treatment of ketoacidosis, there are fewer complications, it is easier to regulate and the risk of hypoglycemia and cerebral edema are greatly diminished.

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Cervical Pap Smear Usage in Arkansas, Resurvey, 1976

Ruth C. Steinkamp, M.D.,¹ James H. Meade, Jr., Ph.D.,²
William C. Hunter, M.S.,³ and Cherye Riggs, B.S.⁴

The Task Force on Uterine Cancer of the American Cancer Society, Arkansas Division, Inc. completed late in 1976 the statewide four-year campaign to increase Pap smear usage by women at risk of cervical cancer. At its inception, the Task Force undertook initial determination of knowledge and usage of and deterrents to the test.¹

The survey design and results were published with other related papers as a cervical cancer symposium in the *Journal of the Arkansas Medical Society*, November, 1973.

During the subsequent years, the Task Force has used a variety of media and outreach to increase public education. In several Arkansas counties, county-wide clinics were held. Television, newspaper, other media and word-of-mouth to women's groups and individuals publicized the clinics. Testing was done by local physicians in a variety of settings. In addition, local health clinics of the Department of Health expanded Pap smear services to underserved women in all counties.

To evaluate the four-year efforts, a second survey was conducted in 1976. The present report presents the results and a comparison with the 1972 study.

METHODOLOGY

The survey and sampling procedure followed that of Schroeder, 1973.¹ The 75 counties in Arkansas were placed in six strata based on education and poverty level. Two counties were selected at random from each of the six strata.

I.A. NUMBER OF WOMEN INTERVIEWED BY AGE, AND URBAN OR RURAL RESIDENCE

Years	15-16	17-44	45-64	65+	Missing	Total
Urban	6	105	66	32	37	246
Rural	8	109	54	40	20	231
Missing	0	0	0	0	0	0
Total	14	214	120	72	57	477

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2. Professor and Chairman of Division of Biometry, University of Arkansas for Medical Sciences, Little Rock.
3. Systems Analyst, Division of Biometry, University of Arkansas for Medical Sciences, Little Rock.
4. Public Education Director, American Cancer Society, Arkansas Division, Inc.

The sample consisting of 518 households was allocated to each of the six strata in proportion to the total population of each stratum. Each stratum sample was then divided between the two counties in that stratum in proportion to the total population of each county. The county sample was assigned proportionally to the rural and urban areas. Then, households were selected at random and marked on county and city maps for the field workers. The field work was carried out by American Cancer Society volunteers.

COMMENTS ON INTERPRETATION AND COMPARISON WITH PREVIOUS SURVEYS

To lend itself more readily to comparisons with previous surveys dealing with pap smear data (Shroeder '73 and McCoy '73), the data is presented here in a format similar to that of Shroeder. The compilation and analysis of the data were performed by the Division of Biometry, University of Arkansas for Medical Sciences.

In general the 1976 results are extremely close in comparison to previous surveys of 1973.^{1,2} At a glance there are a few percentages which may appear greater than previous results; but these, perhaps, may best be explained as being inflated due to a smaller sample response and, in some respects, to a lack of uniformity in completing survey questionnaires. For instance, in the cur-

I.B. NUMBER OF WOMEN INTERVIEWED BY AGE AND RACE

Years	15-16	17-44	45-64	65+	Missing	Total
White	5	129	80	48	14	276
Black	9	68	29	21	11	138
Other	0	0	1	1	0	2
Missing	0	17	10	2	32	61
Total	14	214	120	72	57	477

II. A COMPARISON OF SOME RATES OBTAINED FROM THREE SURVEYS IN ARKANSAS

	Sample Size	Interview Completion Rate (%)	% Ever Tested	% Ever Tested		% Ever Tested by Age		
				Urban	Rural	17-44	45-64	65+
1976 Survey	477	81	69	75	62	79	66	44
1973 Shroeder	501	84	63	72	57	69	63	50
1973 McCoy Steinkamp	4396	89	65	70	61	73	69	44

rent survey results the reader might note the differences in numbers of total responses to the three major sections in the categories for Table IV comparing education levels and also in Table III comparing age groupings. In each case substantially fewer total responses are recorded for the last item in each table ("Number in sample who had a Pap Test in the last two years") than are recorded for the first and second sections — which are very nearly the same — in each table. This inconsistency in responses across items did not occur in a 1973 survey.¹

As an example, from Table III comparing ages, a total of 416 women answered the question indicating whether they had ever had a Pap Test; yet only 237 responded to the question indicating when the most recent exam was given. This could possibly indicate a lack of thoroughness on the part of some individual interviewers and could make any conclusions from the data difficult to reach, if not at least questionable. This is an important consideration, since a comparison of results shown in Table III with results in a similar table by Shroeder¹ yields significant differences between comparable age groups in the third item but not in the first and second.

RESULTS OF THE SURVEY

Of the 518 households selected for the survey,

III. AGE AND THE PAP TEST

	Age			
	Under 16	17-44	45-64	65+
Number in sample who were familiar with Pap Test	11	190	97	51
Number answering question	14	206	117	71
Percent	77	92	83	72
Number in sample who had ever had a Pap Test	6	169	79	31
Number answering question	14	213	119	70
Percent	43	79	66	44
Number in sample who had had a Pap Test in the last two years	6	112	39	12
Number answering question	6	149	61	21
Percent	100	75	64	57

420 were visited and some information recorded on the questionnaire. From these households 477 questionnaires were completed, at least in part. This represents 477 individual women ranging in age from 15 years upward. The completeness rate for the survey was 81%. A breakdown of those respondents by age and residence is given in Table I.A. A similar breakdown by age and race is shown in Table I.B.

Based on sample responses, it is estimated that 69% of the women in Arkansas over 15 years of age have had a Pap Smear at some time in their life. From the urban sample this estimate is 75% while the rural estimate is 62%. A comparison of these figures with similar results from 1973 studies by Shroeder and McCoy/Steinkamp is shown in Table II. A further breakdown by age grouping is also shown in this same table comparing the three surveys. On inspection one can readily see that, among the three studies, these percentages are approximately the same.

In general, similar observations can be made from the current survey as were made in 1973.^{1,2} The highest utilization of Pap Smear testing is found among younger (child-bearing age) females living in urban areas while the lowest utilization is found among older females living in rural areas. In the sample approximately 84% of the urban women in the 17-44 range have had at least one Pap Test while among rural women in the same age group 74% have had a Pap Test; in the 45-64 age group the urban rate is 74%

IV. EDUCATION AND THE PAP TEST YEARS OF SCHOOL

	Under 9 years	10-12 years	13 or more years
Number in sample who were familiar with Pap Test	79	191	56
Number answering question	117	209	56
Percent	68	91	100
Number in sample who had ever had a Pap Test	57	165	50
Number answering question	122	213	55
Percent	47	78	91
Number in sample who had had a Pap Test in the last two years	24	99	40
Number answering question	42	141	48
Percent	57	70	83

while the rural rate is 56%; and in the 65 and over age group the urban rate is 50% while the rural is 38%. For both residential categories the rates decline with age.

Similar results appear among the two major racial categories. Higher utilization rates were detected in the sample among younger white females than were found among younger black females. In the 17-44 age group the rates are 83% among whites and 68% among blacks; in the 45-64 age group the rates are 70% and 52%, respectively; and in the 65 and over age group they are 52% and 24%. Of the women who indicated their race on the survey questionnaire, approximately 33% were black and approximately 66% were white. While there were fewer black women than white women interviewed, this ratio exceeds the overall state percentages of 18.3% and 81.4%, respectively; and it also exceeds the ratio of percentages for the total population of the counties surveyed, 24.4% and 75.2%, respectively.

A summary of Pap Test familiarity and utilization by age groups is shown in Table III. As in the age group comparisons, a relationship exists between education levels and familiarity and utilization of the Pap Test. These figures appear in Table IV. Here rates increase as the education level rises among those surveyed.

To be expected is the decreasing usage with age by both rural and urban women as shown in Table V. Again, blacks used the test less frequently in all age groups. Compared with McCoy '73 findings blacks increased from 40% to 56% for those ever tested while whites increased from 69% to 73%.

This increase may even be higher in comparison to the 1973 survey¹ as the surveyed counties were primarily in the southern part of the state

in the present survey, an area noted by McCoy² to be lowest in utilization. It is also predominantly rural with a black population average greater than the state as a whole.

Other observations from the survey questionnaire are listed below.

- 1. Only 10% of the women surveyed said that the Pap Test was too expensive. This same figure was reported by Schroeder in 1973.
- 2. Of the women surveyed, 367 or approximately 77% indicated they have a family doctor.
- 3. From the survey 333 or approximately 70% said it was convenient for them to go to a doctor's office, maternity clinic, or family planning clinic.
- 4. Of those interviewed, 234 or 49% had Pap Tests at a private doctor's office; but on almost 41% of the questionnaires there was no response to this question.

CONCLUSIONS

The Task Force on Uterine Cancer of the American Cancer Society, Arkansas Division, Inc. completed four years of active education and service. Two surveys on Pap smear usage were done.

The 1976 resurvey on Pap smear usage, while based on a smaller sample response and less completeness of the questionnaire than attained in 1973, compares with the former in basic usage patterns. As the present sample included a greater proportion of southern counties with a greater black and rural population, it is possible the data would show more increase in usage had the sample counties for both surveys been the same.

It is evident that continued efforts are required to increase Pap Test usage in Arkansas, particularly among rural, non-white, and older women.

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Appreciation is extended to the following for assistance in conducting the survey: Arkansas Cancer Society, Inc. volunteers and staff; Arkansas Cooperative Extension Service; the 20th Century Club; the Federated Women's Club of Arkansas; the Catholic Women's Association; the Arkansas Health Department Public Health Nursing Staff; to Medical Students, James P. DeRossitt, III, Steve Hutchins, and William Owens; and to Margaret M. Shelton, Director Data Processing, Arkansas Health Department for data key-punching.

V. PAP SMEAR UTILIZATION RATES BY AGE, RESIDENCE, AND RACE

	% Tested Annually*				% Ever Tested*			
	17-44	45-64	65+	Total	17-44	45-64	65+	Total
Residence:								
Rural	45	26	15	34	74	56	38	62
Urban	63	30	22	46	84	74	50	75
Race:								
White	58	31	23	43	83	70	52	73
Black	41	14	10	29	68	52	24	56
Other	—	0	0	0	—	0	0	0
Combined								
Total:	54	28	18	40	79	66	44	69

*% figures are calculated using totals excluding 16 and under; and those where age is missing.

Office Orthopaedics

Carpal Tunnel Syndrome

Kenneth G. Jones, M.D.*

Compression of the median nerve in the carpal tunnel was recognized by Paget as a clinical entity as early as 1854.¹ Marie and Foix in 1913² defined the role of the carpal ligament in the pathogenesis in this syndrome which consists of a variable group of symptoms and signs usually secondary to a space occupying process within the carpal tunnel that compromises its cross-sectional area. As a consequence the median nerve is compressed and irritated.

While the transverse carpal ligament is the anatomical structure which has become the primary object of the surgeon's attention, as related to this problem, he should be cognizant that the dorsal surface and sides of this unelastic tunnel are constructed by the proximal carpal bones, their constraining ligaments, the wrist joint and the distal end of the radius. (Figure 1) Encroach-

ment into the canal by any of these structures is possible and does occur.

Carpal Tunnel Syndrome is classically seen in the female over forty years of age who is employed in an occupation which precipitates repetitive stresses at the wrist level. Pregnancy may be a contributing factor. Middle age male athletes are also susceptible.

Over filling of the tunnel is most often due to a proliferative synovitis of the flexor tendon sheath secondary to repetitive stress, rheumatoid arthritis, or the retention of fluids associated with pregnancy. Injuries such as the ubiquitous Colles' fracture or volar displacement of the carpal lunate bone are causative on occasions. Since compromise of the median nerve under these circumstances may become complicated by Soudeek's atrophy or even a true causalgic state, early decompression of the nerve by closed or, when necessary, open procedures is obligatory. Degenerative or rheumatoid arthritis of the wrist or the distal radioulnar joint may produce sufficient swelling to bulge into the tunnel to produce symptoms. A distal extension of a congenitally prolonged forearm muscle belly or a proximal elongation of the lumbrical muscles into the tunnel can be at fault. Tumor of bone, tendon or tendon sheath or even the nerve itself is seldom at fault but should be considered when the cause for the symptoms is not apparent. In some instances the cause will remain unknown.

The diagnosis, as always, begins with the acquisition of an adequate history; the age and sex are important. Pregnancy and medical problems should be determined to be present or absent, especially generalized neurotrophic diseases. The physician must be certain that the patient's com-

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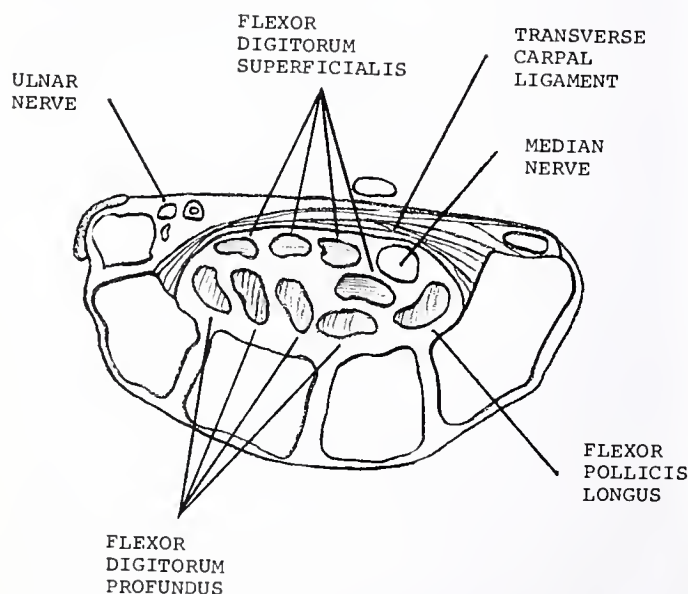


FIGURE 1

plaints are restricted to the distribution of the median nerve. Paresthesia of the entire hand is not due to carpal tunnel syndrome!

The general and laboratory examination must be adequate to rule out general medical problems such as rheumatoid arthritis, gout, diabetes, lupus, etc.

Local findings — median nerve signs — will vary according to the stage of the process. For convenience we may consider the process to exist in one of three stages. During Stage I the patient will experience intermittent paresthesia in the median nerve distribution in the hand at night and in the morning with pain on power gripping but without demonstrable signs. In Stage II these symptoms continue into the day but signs do not appear until Stage III when symptoms are more marked and EMG and nerve conduction changes may be demonstrated.

By the time Stage III is reached the patient may demonstrate any or all of the following: numbness in the distribution of the median nerve in the hand, weakness in the thenar muscle mass (opposition), a Tinel's sign, a positive Phalen's test, latency of conduction of the median nerve across the wrist or EMG changes in the thenar muscle mass.

The origin of median nerve symptoms and signs is a consequence of excessive pressure in or about the nerve as it transverses the carpal tunnel. This in turn may be due to filling of the tunnel with fluid or swollen perineural tissues or constriction of the tunnel due to age or trauma.

Treatment is always directed toward reducing the pressures within the carpal canal. For Stage I patients — especially the pregnant female — diuretics and rest by wrist splinting may suffice. Most if not all of those patients who have progressed to Stage II or III will require surgical decompression of the carpal canal by transection of the transverse carpal ligament and when indicated a synovectomy of the flexor tendon sheath. Opening of the epineurium of the median nerve in conjunction with an intraneural neurolysis may be indicated. Any abnormal intrusion of bone into the carpal canal must be relieved by closed or open means.

Local cortisone has not proven to be of lasting benefit even though it may temporarily reverse the inflammatory process.

While surgery is the treatment of necessity for relief of discomfort in Stages II and III, all patients who anticipate returning to a repetitive stress occupation should be cautioned that their symptoms may return when they again subject the wrist and hand to repetitive stress. The object of surgical intervention must be to relieve symptoms. If a patient finds she is able to return to and continue in a high stress occupation within one or two years, she will have received a bonus.

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CORRECTION

An error appeared in Dr. Sloan Wilson's letter to the Editor in the May 1978 issue of the Journal. The letter on the subject of "Non-Medical Physicians?" mentioned "many non-medical groups, each performing valuable services within the limits of their training." The listing of non-medical practitioners is corrected to read as follows: "Chiropractors, podiatrists, psychologists, optometrists, audiologist, nurse-anesthetists, nurse-practitioners, radiation therapy technicians, physical therapists, etc."

ELECTROCARDIOGRAM



OF THE MONTH

The Department of Cardiology, University of Arkansas College of Medicine
(See Answer on Page 64)

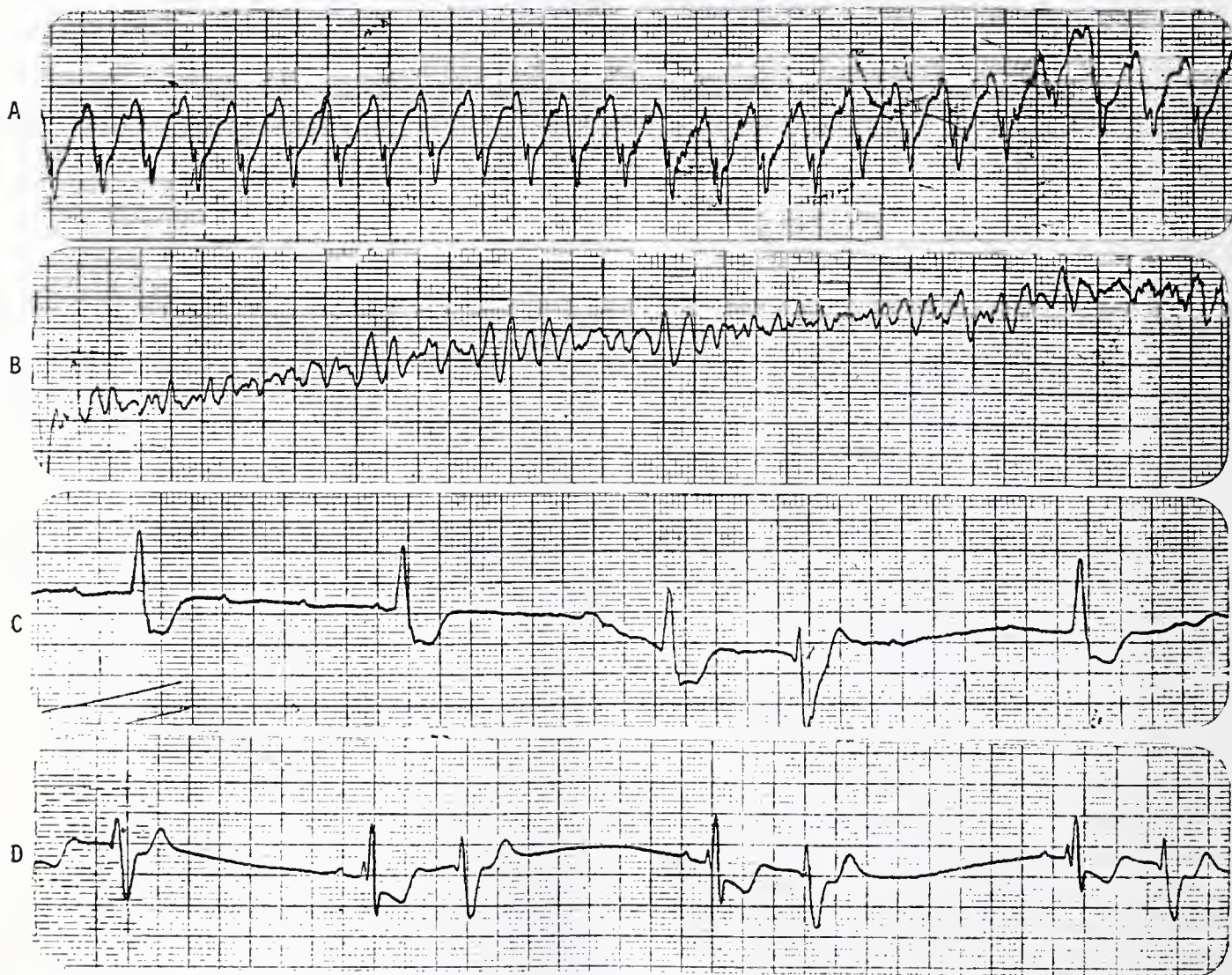
Ms. X is a 50-year-old smoker who drinks ten cups of coffee per day. She is the spouse of a politically prominent person and has been placed on Lanoxin at an east coast institution because of problems with recurrent, well documented supraventricular rhythm disturbances. She had been "politicking" with some vigor when she experienced the onset of palpitations and noted a rapid heart rate. On her own, the patient took an extra 0.25 mg. of her Lanoxin and presented to the Emergency Room when the palpitations had continued for a total of two hours time.

On presentation, she was flushed and anxious. Her blood pressure was 110/60 mmHg. S1 was constant, and no murmurs were present. Basilar rales, which did not clear with coughing, were present.

Initially, Strip A was obtained. Therapy was administered, and Strip B was the resultant rhythm. More therapy was given, then Strips C and D were obtained.

It is obvious to all that this was not the result anticipated when the initial therapy was chosen. Would you care to speculate as to the nature of the initial arrhythmia, the initial therapy, and the results of that therapy?

Lead II (Continuous)



John W. Watson, M.D.
Assistant Professor
Division of Cardiology
University of Arkansas for Medical Sciences



Beware of the Drug Abuser

Don Phillips, R.Ph.*

There are certain precautions that a physician must take when he or she is in the private practice of medicine. A properly oriented physician must be aware of certain innate hazards in the handling and prescribing of potentially dangerous drugs. Some of these important areas that will be discussed are the appropriate education of the patient, the control or refill philosophy which must be discussed with the recipient patient, and the manner in which patient records are kept.¹

When a patient is first given a prescription for a drug that has potential for abuse, it is crucial that the physician inform the patient of the effects, dangers, and expected therapeutic response.¹ The patient should be cautioned about side effects, the philosophy of refilling prescriptions, and the need for consulting with the physician at the time such refills are acquired. The physician should strive to develop a conversational relationship with the local pharmacists, so that interchange of information will occur in order to alert the professionals of developing problems of abuse.

The physician should always reduce to writing on the patient's record any and all refills authorized and the date, so reference to the chart can be made as to the amount of drugs being received by the patient.

It is important for physicians to intercommunicate at local medical society meetings, so that if a patient is going to more than one physician and to multiple drug stores to get numerous prescriptions for the same drug, there is a means to exchange this information.

A physician must maintain controls on the way that drugs are kept in the office and in his black bag. Of even greater importance is the proper

handling of prescription pads. The physician must be constantly aware of who in the office has access to samples or stock medication, and in all matters pertaining to the handling of drugs and prescriptions in his or her practice, above and beyond those needs dictated by close medical supervision of patients.

PROFESSIONAL PRACTICE

A medical practitioner who distributes or delivers a controlled substance outside the course of professional practice does not come within the definition of a "practitioner" contained in the Federal or State Controlled Substances Act. Hence such a person becomes subject to the criminal sanctions contained in such Acts as any person would be who traffics in drugs!

In a very early Supreme Court case (*Jin Fuey Moy v. United States*, 254 U. S. 189, 194, 41 S. Ct. 98-100(1920)) it was said, . . . "in the course of professional practice only" (is) intended to confine the immunity of a registered physician, in dispensing the narcotic drugs mentioned in the Act, strictly within the appropriate bounds of a physician's professional practice, and not to extend it to include a sale to a dealer or a distribution intended to cater to the appetite or satisfy the craving of one addicted to the use of a drug.¹

Some physicians are unknowingly contributing to the growing problems of drug abuse in this state. According to the latest statistics, about 80% of all drugs abused by citizens in Arkansas come from legitimate sources, such as theft from drug stores and doctors' offices, stolen prescription pads to use for forged prescriptions and obtaining drugs by defrauding doctors.

THE ADDICT

The following tips on how to spot an addict from among patients who come in to your office with symptoms calling for drugs that tend to be

*Director, Bureau of Pharmacy Services, Arkansas Department of Health, 4815 West Markham Street, Little Rock, Arkansas 72201.

abused, are from an addict that for several years obtained his main supply of drugs from physicians just like you, by fraud.

Of all the narcotics, Demerol® seems to be the most popular and most widely used, especially by the younger addicts.²

The older abusers tend to favor Morphine, Dilaudid®, Pantopon®, and Percodan®. Except for Percodan®, these drugs are harder for the less experienced, younger addicts to obtain.

Addicts also try to get hold of paregoric and the most widely used excuse is to complain of diarrhea. Another good one is to claim that your child is cutting teeth and is restless and in pain. . . . "I've tried paregoric before with the child and it worked fine." One ounce will yield about one-fourth grain of opium.²

Addicts get to be very good at fooling doctors. One of the oldest and most successful approaches is to pretend you have kidney stones, complaining of pain in the left side, and pain shooting down the groin and originating from the back on the left side. They use the left side to avoid having the "ailment" mistaken for appendicitis, which would require hospitalization. The addict will tell the doctor that it burned when water was passed and that he had passed stones before while at home. If hospitalization is suggested the addict would say that he had just gotten medical insurance in a group policy, but the policy would not be effective for about two weeks, and he wanted to try and hang on until then.

When asked by the physician for a urine specimen, the addict would stick his fingertip with a needle and drop in enough blood in the sample to barely darken the color of the urine.

After the doctor had diagnosed the illness as probably due to kidney stones, the addict would volunteer the information . . . if the doctor didn't ask for it . . . that he is allergic to codeine and Talwin®. Both of these drugs will ease pain but if the doctor was told of the allergic condition, that would leave only a few other drugs to prescribe to relieve the pain of kidney stones.

The addict rarely goes back to the same doctor more than two or three times, but would still make use of him by getting other addicts or friends to go to him and then they divide the drugs. The others would pay all the expense because the addict would furnish them with a new source. They would then do the same thing for their friends, so a doctor should watch out

for a series of new patients, all complaining of similar illnesses, like kidney stones. Don't let age or appearance fool you. Addicts are of all races, ages and both sexes.

Addicts are desperate. They always are thinking of new ways to feed their habit and will do almost anything to get hold of the drugs they need. For this reason, if you find it necessary to give a patient medication for pain, never let him see where you keep the drug. If an addict knows there are drugs in an office and has learned where they are, it will be a big temptation for him to break in later. Once that happens, a doctor can expect a lot more break-ins, not only by the first person, but by others as well, for drug addicts have a communications "grapevine" operating about good sources of supply.

A prescription pad left out in the open is another temptation that an addict may find hard to pass up since most can write a prescription as well as a doctor.² When a doctor writes a prescription, he should use both the numerical and written-out form of the amount, so that the patient will find it harder to alter the quantity.

There are many more gimmicks drug abusers use, and a drug addict will take advantage of you as long as you let him. When you discourage a few of them by not falling for their games, you will be known within drug circles as a "doctor who won't write," and other addicts will leave you alone.

A good "rule of thumb" to follow is to be suspicious of any stranger that comes in complaining of pain so severe that it takes a narcotic to relieve.

SUMMARY

There is no simple means by which prescription writing and the delivery of prescriptions to patients can be monitored. Investigative audits involving prescriptions and prescription-writing are achieved only with the greatest of difficulty. There are no widespread statistics available to shed light on the extent of diversion by way of false, forged or otherwise illicit prescriptions. There is sufficient evidence, however, to lead to the conclusion that the joint effort that is now in force between the Division of Drug Control — Arkansas Department of Health, the Medical Board, the Pharmacy Board and the Federal, State and Local Law Enforcement Officers, has had a great impact on decreasing the trafficking

of controlled drugs from legitimate sources in Arkansas.

These results have not come about by accident but by commitment and hard work of many individuals at the Arkansas Department of Health, and all the other agencies mentioned. This teamwork is all-important. The support and interest

of the physicians, the pharmacists, and the public have made the difference.

REFERENCES

1. Drug Enforcement, Vol. ??, No. 3, U.S. Department of Justice — Drug Enforcement Division.
2. Office of Public Affairs Booklet "Don't Be Deceived by a Drug Addict," U.S. Department of Justice — Drug Enforcement Division.



EDITORIAL

The Spectrum of Medicine

Alfred Kahn, Jr., M.D.

The spectrum of medicine is very broad. In one recent publication of *The American College of Physicians*, the diversity of interesting topics was exceptional — *Annals of Internal Medicine*, January, 1978.

Of interest to physicians and surgeons alike is a discussion of "Hormonal Therapy of Breast Cancer" by S. S. Legha, H. L. Davis, and F. M. Muggia (*Annals of Internal Medicine*, Vol. 88, p. 64, Jan., 1978), as they point out the most significant factor is that hormone therapy does not damage normal tissue. There are pitfalls to the use of hormones — the effects are often short lasting and only one-third of advanced breast cancer cases seem to respond to hormones. They indicate that in premenopausal cases oophorectomy will bring about improvement in 30-40% of the cases for 12-16 months. In cases beyond the menopause, hormones are administered; roughly 30% respond to estrogens; androgen seems to benefit 20%. Selected patients are often submitted to adrenalectomy or excision of the pituitary — if they have previously responded to hormonal therapy. Corticosteroids and progestins are beneficial in a very limited number of

cases. Many institutions now measure estrogen receptors; this is a protein which acts as a couple between the hormone and the cell. Legha says that if the tumor is receptor positive, a response rate of 60% can be obtained using hormone treatment. Other receptors have been tested but the results are equivocal. Antiestrogen substances often chemically are different from estrogen being used; they appear to bind to the estrogen receptor and in a complex manner deplete receptors. Three antiestrogens seem to be valuable — clomiphene, nafoxidine, and tamoxifen. Because levodopa seems to inhibit the secretion of prolactin, which is a potent breast stimulant, it has been tried in breast cancer with some benefit. Ergot compounds also inhibit prolactin secretion; they too have been tried with some benefit. The adrenal gland can be medically inhibited if surgical ablation is deemed undesirable. Amino-glutethimide blocks the production of the three adrenal steroid classes — mineralocorticoid, sex hormones, and glucosteroids. The adrenal is said to return to normal function when the anti-adrenal chemical is stopped.

Black patients seem to be injured more by

hypertensive disease than caucasian patients. One reason for this is the subject of a recent paper by Levy, Talner, Coel, Holle, and Stone (*Annals of Internal Medicine*, Vol. 88, p. 12, Jan., 1978), entitled "Renal Vasculature In Essential Hypertension: Racial Differences." The authors studied a group of 27 men — 19 white and eight black. Renal arteriography was performed on every patient. Among the differences reported in their discussion were the black patients tended to have greater plasma volume and deficient activity of renal vasodilators. The current studies demonstrated further that black patients had more severe disease in the renal arcuate arteries; the para amino heppurate test which tends to parallel blood flow was likewise decreased. Levy, et al, does not answer the question if the renal vasculature is a result or a cause of hypertension — and it does not distinguish whether the renal lesions are structural and permanent or due to spasm.

Of particular interest to Arkansans was a critical study of amebiasis by Krogstad, Spencer, Healy, Gleason, Sexton, and Herron (*Annals of Internal Medicine*, Vol. 88, p. 89, Jan., 1978). Amebiasis was widely diagnosed in this area — and there was a debate over the true incidence of disease here. Interest in the subject has disappeared to a large extent. Krogstad, et al, did an epideneurologic survey from 1971-1974 consisting of seven investigations in different geographic areas (names of states not given). They concluded that many laboratories have seriously over-diagnosed amebiasis; that outbreaks of amebiasis are often undiagnosed or misdiagnosed, and that endermic amebiasis still exists in some areas. They provide documentation of these conclusions.

Richard V. Ebert, former head of the Department of Medicine of the University of Arkansas School of Medicine, has authored a basic review entitled "Small Airways of the Lung" (*Annals of Internal Medicine*, Vol. 88, p. 98, 1978). This is a discussion of pulmonary bronchioles which is described as a connecting link between the air conduction system and the gas exchange portion of the lung. The bronchiole surface is covered with numerous cilia which are in a solution containing proteins; there is no mucous. The protein is partially derived from clara cells. The bronchiole acts like a capillary tube and as such

is readily occluded by fluid. The bronchiole tends to be held open by a connective tissue complex that extends into adjacent tissues. Ebert says that the resistance to airflow in the bronchioles is low due to the large total cross sectional area. Early obstruction is hard to diagnose. The closing volume using xenon-133 is said to reflect bronchiolar obstruction. Bronchioles are said to close when a positive pressure of 1 cm. of water is reached. The closing volume increases with age and tobacco smoking. Measurement of nitrogen will also reflect small airway disease — as does maximal expiratory flow volume curves. In chronic bronchitis, the obstructive phenomena occurs in airways 2 mm. in diameter or less. Ebert suggests that the airway obstruction is likely due to an increase in goblet cells which produce mucous — which in turn causes obstructive phenomena. In emphysema, the bronchioles tend to collapse due to loss of lung elasticity and the fact that intra thoracic pressure is only slightly negative. Ebert states that in pulmonary edema, fluid gets into the bronchioles as though they were a capillary tube and causes obstruction.



ANSWER—Electrocardiogram of the Month

The obvious differential is that between supraventricular tachycardia with a broadened QRS complex and ventricular tachycardia. The patient's history and physical tend to favor supraventricular tachycardia, but there are no features of the rhythm strip presented pathanomic of either tachyarrhythmia. The therapy chosen was DC countershock (10 watt seconds) and ventricular fibrillation resulted either because of inadvertent failure of synchronization or possibly because of digitalis excess. Undaunted, the physician attending the patient quickly defibrillated the patient and treated the resultant bradyarrhythmia (Strip C) with Atropine obtaining the ventricular bigeminal rhythm (Strip D) which picked up without further therapy to a sinus rhythm. Strip C is probably an idioventricular rhythm. Note that the strip shows P waves "marching through" the QRS complexes, best seen early in the strip. With the information given, there is no way short of a His electrogram to say with certainty whether Strip A represents ventricular or supraventricular tachycardia. Esophageal or intracardiac leads may have helped if P waves could have been identified.

RESOLUTIONS



WHEREAS, in noting the recent death of our fellow member, Ross Bizzell, M.D., the members of the Pulaski County Medical Society wish to express their sincere sense of loss, and

WHEREAS, Dr. Bizzell had been a highly esteemed member of this Society for more than thirty-seven years, and

WHEREAS, while devoting most of his time to private practice he endeared himself to his patients and to the medical profession;

BE IT THEREFORE RESOLVED: THAT, this resolution be made a part of the permanent records of this Society; and

THAT, a copy of this resolution be forwarded to Dr. Bizzell's family as an expression of deepest sympathy, and

THAT, a copy be sent to the Journal of the Arkansas Medical Society for publication.

Pulaski County Medical Society

WHEREAS, it is noted with sincere regret that due to reasons of health, James L. Dennis, M.D., has found it necessary to ask to be relieved of his duties as Chancellor of the University of Arkansas for Medical Sciences Campus; and

WHEREAS, the colleagues of Dr. Dennis forming the membership of the Pulaski County Medical Society wish to express their great appreciation of his noteworthy leadership in this position for the past seven years, and ,

WHEREAS, we wish to commend Dr. Dennis for his untiring efforts which have caused the continued growth and progress of the institution during his tenure;

BE IT THEREFORE RESOLVED: THAT, this resolution be adopted and presented to Dr. Dennis on behalf of the Society, and;

THAT, a copy of this resolution be made a part of the permanent records of the Society, and;

THAT, a copy be made available to the Jour-

nal of the Arkansas Medical Society for publication.

William N. Jones, M.D.
President

Unanimously Adopted
Executive Committee
Pulaski County Medical Society
April 20, 1978



THINGS



TO COME

BETH ISRAEL HOSPITAL ANNOUNCES PROGRAMS

The Beth Israel Hospital Conference and Institute Program for 1979 has been announced. The winter meetings have been approved for Category I Credits toward the American Medical Association Physician's Recognition Award; twenty-two hours for each of the Vail Conferences and twenty-five hours for Radiology. The registration fee for each meeting is \$220.00 and brochures and application forms are available by writing in care of the particular meeting, Post Office Box 11366, Denver, Colorado 80211. The courses are:

FOURTH ANNUAL VAIL FAMILY PRACTICE CONFERENCE: February 10-17, 1979; The Mark, Vail, Colorado.

SECOND ANNUAL VAIL UROLOGY CONFERENCE: February 10-17, 1979; The Mark, Vail, Colorado.

FIFTH ANNUAL VAIL OB/GYN CONFERENCE: February 17-24, 1979; The Mark, Vail, Colorado.

FOURTH ANNUAL VAIL PSYCHIATRY CONFERENCE: February 17-24, 1979; Lion Square Lodge, Vail, Colorado.

FIRST ANNUAL VAIL EMERGENCY MEDICINE/CRITICAL CARE CONFERENCE: February 17-24, 1979; Kiandra-Talisman Lodge, Vail, Colorado.

NINTH ANNUAL ASPEN RADIOLOGY CONFERENCE: February 24-March 3, 1979; Aspen Institute for Humanistic Studies, Aspen, Colorado.

SECOND ANNUAL VAIL CANCER CON-

ERENCE: March 3-10, 1979; Kiandra-Talisman Lodge, Vail, Colorado.

FOURTH ANNUAL VAIL GENERAL SURGERY CONFERENCE: March 10-17, 1979; The Mark, Vail, Colorado.

FIRST ANNUAL VAIL GERONTOLOGY CONFERENCE: March 10-17, 1979; Lion Square

Lodge, Vail, Colorado.

FOURTH ANNUAL VAIL INTERNAL MEDICINE CONFERENCE: March 17-24, 1979; The Mark, Vail, Colorado.

FIRST ANNUAL VAIL PEDIATRICS CONFERENCE: March 17-24, 1979; Lion Square Lodge, Vail, Colorado.



PERSONAL AND NEWS ITEMS

Dr. Piediscalzi Relocates

Dr. Nick Piediscalzi of Little Rock will relocate in Mountain View in August. Dr. Piediscalzi will join Dr. Howard Monroe and specialize in Family Practice.

Dr. Saltzman Speaks

Dr. Ben Saltzman of Little Rock was recently the guest speaker at the Mountain Home dedication of the new Baxter County Public Health-Mental Health building. Dr. Saltzman discussed the history of the mental health services in the county when he served as Baxter County Public Health officer.

Dr. Stern Receives Honor

Dr. Howard Stern of Pine Bluff recently received honorable mention for work he exhibited at the eighth annual Mid-Southern Watercolorists Exhibition held at the Arkansas Art Center in Pine Bluff.

Dr. Galloway Earns Certification

Dr. William W. Galloway of Russellville has passed his board certification examination and has been appointed a Fellow in the American Academy of Dermatology. Dr. Galloway has also been appointed assistant clinical professor of Dermatology at the University of Arkansas College of Medicine. He donates time each month teaching residents and medical students.

Dr. Price Given Recognition

Dr. J. P. Price of Monticello was recently presented a ruby pin for his fifteen years of service on the Board of Trustees of Arkansas Blue Cross-

Blue Shield. Dr. Price has served as chairman of the board since 1973.

Dr. Anderson Elected

Dr. Leslie Anderson has been elected to the Lonoke School Board. Dr. Anderson will fill the unexpired term of Dr. B. E. Holmes of Lonoke, who resigned in March. Dr. Anderson is in Family Practice in Jacksonville and resides in Lonoke.

Dr. Roy Participates In Meetings

Dr. F. Hampton Roy of Little Rock conducted a course on Intraocular Lens Calculation using the Xenotec Biometer at the first United States Intraocular Lens Symposium held recently in Los Angeles, California. He presented two papers at the meeting—Clinical Evaluation of Xenotec A-Scan Biometer System and Artiphakic Refraction.

Dr. Roy was a speaker and also presented two workshops at the Second Course in Real-Time Ophthalmic Ultrasound and Intraocular Lens Power Calculation which was held in Memphis, Tennessee, in April.

Dr. Holye Locates

Dr. Jack J. Sternberg of Oncology Associates has announced the association of Dr. Paul Y. Holye for the practice of Medical Oncology. Their offices are located in Suite 725 of the Doctors Building in Little Rock.

Diplomates Named

The following physicians have been certified by the American Board of Family Practice. Dr. J. Roland Anderson, Sherwood; Dr. Albert L. Baltz, Pocahontas; Dr. Thomas O. Beasley, Con-

way; Dr. Russell W. Cobb, Malvern; Dr. Charles D. Daniel, Marshall; Dr. Robert L. Kerr, Mountain Home; Dr. Joe D. King, Nashville; Dr. John D. Smith, Conway; and Dr. Sebastian Spades, III, Walnut Ridge. Dr. Joe A. Abrams, Conway; Dr. James W. Marsh, Warren; Dr. David L. Stewart and Dr. Sam D. Taggart, Benton; Dr. W. C. Whaley, and Dr. George F. Wynne, both of Warren; Dr. Ronald Lynn Baker and Dr. Jim C. Citty, Searcy.

West Memphis Gains Physician

Dr. William T. Herring has begun practice in West Memphis in the new Professional Office Building of Crittenden Memorial Hospital. Dr. Herring specializes in Internal Medicine and was previously in practice in Memphis, Tennessee.

Dr. Taylor Receives Honor

Dr. Charles A. Taylor was given special recognition by the citizens of Batesville. Dr. Taylor was presented the 1978 Outstanding Citizenship Award by the Civitan Club, and was lauded by those associated with him in college, the teaching profession, medical field, Chamber of Commerce, and church. Dr. Taylor is in General Practice in Batesville.

Dr. Miller Relocates

Dr. James L. Miller, who formerly practiced in West Memphis, has joined the Family Practice Clinic at 1308 East Kiehl in Sherwood.

Monticello Gains Physician

Dr. Andrew David will join the staff of Drew Memorial Hospital in Monticello in August. Dr. David is a Family Practitioner and has just completed his residency training at the University of Arkansas Medical Center.

Dr. Wolfe Joins Clinic

Dr. Michael S. Wolfe has joined the Ashcraft Medical Clinic in Russellville. Dr. Wolfe is a graduate of Vanderbilt University School of Medicine in Nashville, Tennessee, and is in Family Practice.

Dr. Brown Retires

Dr. Arnold R. Brown of Searcy retired from the practice of Internal Medicine. Dr. Brown began practicing in Searcy in 1946. He will work as a counselor at the Harding College Counseling Center this fall.

Dr. Tvedten Joins Clinic

Dr. Tom Tvedten will join the Lake Village Clinic in August. He will be associated with Drs.

John H. Burge, John P. Burge, and John R. Russell and specialize in Family Practice.

Dr. Martindale Retired

Dr. J. L. Martindale of Benton has retired from practice. Dr. Martindale has been a Family Physician in Benton since 1960.

Dr. McKinney Joins Greenwood Clinic

Dr. Robert McKinney is joining Drs. Charles Bailey and Rick Martin in Family Practice at Greenwood. Dr. McKinney is a graduate of the University of Arkansas College of Medicine and will complete his residency training at John Peter Smith Hospital, Fort Worth, Texas, in July.

Dr. Robertson Will Have Fellowship

Dr. Fred Robertson of Little Rock will enter Rheumatology Fellowship in Memphis, Tennessee, the first of July. Dr. Robertson has specialized in Internal Medicine at 500 South University.

Dr. Nelson Selected As Fellow

Dr. Carl L. Nelson, Jr., who is chairman of the Department of Orthopedic Surgery at the University of Arkansas College of Medicine, has been chosen one of four traveling fellows by the Orthopaedic Audio-Synopsis Foundation for 1978. He will visit for two months in nine countries and also lecture at an International Orthopaedics and Traumatology meeting at Kyota, Japan, during the tour.

Portland Gains Physician

Dr. Solomon Cutcher of Tucson, Arizona, will locate in Portland in August. Dr. Cutcher will be the medical director of the new Rural Health Clinic to open in the near future. He has been a Family Practitioner in Tucson, Arizona, for fifteen years prior to moving to Portland.

Dr. Simmons Received Citation

Dr. Orman W. Simmons of Little Rock received the Distinguished Baptist Layman Citation during the Southern Baptist College commencement exercises in Jonesboro on May 11th. Dr. Simmons is an Obstetrician-Gynecologist at 310 Doctors Park Building.

Ashdown Gains Physician

Dr. Myra Gillian will join the Ashdown Clinic in mid-July. Dr. Gillian will be associated with Dr. James Armstrong who is in Family Practice in Ashdown.

Physicians Compete In Marathon

Dr. Robert D. Dickins, Jr., 750 Medical Towers

Building in Little Rock, and Dr. Berry Lee Moore, 615 West Grove, El Dorado, competed in the Boston Marathon which was held in April. Both physicians completed the race and enjoyed the experience.

Dr. Clark Honored

Warner Brown Hospital in El Dorado recently honored Dr. James F. Clark upon retirement from his practice of Urology. Dr. Clark has been in El Dorado since 1947.

Dr. Pupsta Re-elected

Dr. Benedict F. Pupsta was recently re-elected president of the Clarendon School Board. Dr. Pupsta is a General Practitioner in Clarendon.

Dr. Buckley Elected

Dr. J. Wayne Buckley has been elected president of the Arkansas Society of Otolaryngology. He is also a member of the American Board of Otolaryngology, and the American Academy of Otolaryngology.

Dr. Carter Presents Paper

At the April 5th meeting of the American Society of Dermatologic Surgery in San Diego, California, Dr. Vernon H. Carter presented a paper describing a new procedure, "Hypertrichosis-Flap Epilation". Dr. Carter specializes in Dermatology and Cosmetic Surgery in Fayetteville.



NEW MEMBERS

DR. HOMER B. RUSSELL

Benton County Medical Society has accepted Dr. Homer B. Russell into its membership. Dr. Russell was born in Great Bend, Kansas, and received his B.A. degree from Princeton University, Princeton, New Jersey, in 1939. He was graduated from Northwestern University Medical School, Chicago, Illinois, in 1942, and completed his internship and residency at St. Luke's Hospital, Chicago.

Dr. Russell was chief pathologist, Mediterranean Third Army of Occupation from 1945 until 1947. He was in practice in Great Bend, Kansas, for thirty years prior to locating in Arkansas. He is a General Surgeon and is board certified by the American Board of Surgery. His office is located on Curtis Avenue in Pea Ridge.

CRITTENDEN COUNTY MEDICAL SOCIETY

DR. C. EDWARD ADWELL

Dr. C. Edward Adwell has been added to the membership of the Crittenden County Medical

Society. Dr. Adwell was born in Nashville, Tennessee, and received his B.A. degree from Tennessee Technological University in 1969. He was graduated from the University of Tennessee College of Medicine in 1971 and received his internship at the City of Memphis Hospitals. Dr. Adwell received his residency training in Pediatrics in the City of Memphis Hospitals and the University of Chicago Hospital, Chicago, Illinois. He is a member of the volunteer faculty at the University of Tennessee, Department of Pediatrics.

Dr. Adwell is located at 228 Tyler Street, Suite 200, West Memphis, where he specializes in Pediatrics.

DR. SIDNEY W. ARNOLD

Dr. Sidney W. Arnold is a native of Kansas City, Missouri. Dr. Arnold served in the United States Army from 1944 until 1946, and received his B.A. degree from the University of Missouri, Columbia, in 1949. He was graduated from the University of Arkansas College of Medicine in 1956 and interned at St. Vincent Infirmary in Little Rock. Dr. Arnold served a surgical preceptorship in Little Rock from 1957 until 1958. He practiced in Prairie Grove from 1958 until 1961. He then began an Obstetric-Gynecology residency at the University of Arkansas Medical Center, which he completed in 1965. He was in practice in Birmingham, Alabama, from 1965 until 1971. From 1971 until 1977 he was a member of the University of Tennessee faculty. He began practice in West Memphis in 1977. His office is located at 228 Tyler in West Memphis. Dr. Arnold is board

NEW MEMBERS

certified and is an assistant professor in the Department of Obstetrics-Gynecology at the University of Tennessee in Memphis.

* * * *

DR. RAYMOND SCOTT FERGUS

Dr. Raymond S. Fergus has been accepted into the membership of the Mississippi County Medical Society. He is a native of Osceola and received his B.A. degree from Vanderbilt University in Nashville, Tennessee, in 1967. In 1971, Dr. Fergus was graduated from the University of Arkansas College of Medicine. He served his internship and completed residency training in General Surgery at the Methodist Hospital in Memphis, Tennessee. Dr. Fergus specializes in General Surgery at the Professional Building in Osceola.

DR. THOMAS R. WALLACE

The Garland County Medical Society has accepted Dr. Thomas R. Wallace into its membership. Dr. Wallace is a native of Mena and received his pre-medical education at the University of Arkansas in Fayetteville. His medical degree was received from the University of Arkansas College of Medicine in 1972, and he completed his internship and Ophthalmology residency training at the University of Arkansas Medical Center. Dr. Wallace specializes in Ophthalmology at 312 St. Louis in Hot Springs.

DR. RICKEY R. CARSON

A new member of the Mississippi County Medical Society is Dr. Rickey R. Carson. Dr. Carson was born in Blytheville and received his B.S. degree from Baylor University in 1970. He was graduated from the University of Arkansas College of Medicine in 1974 and completed his internship and Family Practice residency training at the University of Arkansas Medical Center.

Dr. Carson practiced in DeSoto, Missouri, for two years prior to moving to Blytheville where he has been in practice since August 1977. He is in General Practice at 527 North Sixth Street and is associated with the Rainwater-Workman Clinic.

DR. JOHN KIENTZ, JR.

Dr. John Kientz, Jr., a native of Pine Bluff, has been added to the membership of the Sebastian County Medical Society. Dr. Kientz is a graduate of Hendrix College, receiving his B.A. degree in 1970. He was graduated from the University of Arkansas College of Medicine in 1974, and completed his internship at Scott-White Memorial Hospital in Temple, Texas. Dr. Kientz continued

at Scott-White Hospital for his Internal Medicine residency training.

Dr. Kientz is associated with Holt-Krock Clinic, 1500 Dodson Avenue, in Fort Smith.

DR. JOE DAVID STAGGS

The Sebastian County Medical Society has accepted Dr. J. David Staggs into its membership. Dr. Staggs is a native of Fort Smith. He received his pre-medical education at Arkansas Tech in Russellville, and was graduated from the University of Arkansas College of Medicine in 1971. Dr. Staggs interned and received his residency training in Internal Medicine at the University of Arkansas Medical Center. He served in the United States Navy from 1972 until 1974. Dr. Staggs specializes in Internal Medicine at Holt-Krock Clinic, 1500 Dodson Avenue, Fort Smith.

DR. JOHNNY ADKINS

Dr. Johnny Adkins has been added to the membership of the Washington County Medical Society. Dr. Adkins is serving his internship with the Area Health Education Center in Fayetteville. A native of Blytheville, he received his pre-medical education at the University of Arkansas in Fayetteville and was graduated from the University of Arkansas College of Medicine in 1977.

DR. LAMAR HOWARD

A native of Memphis, Tennessee, Dr. Lamar Howard has been accepted by the Washington County Medical Society as a resident member. He received his B.A. degree in Zoology from the University of Arkansas in Fayetteville in 1973. He also attended Trinity University in San Antonio, Texas, and completed summer courses at the University of Arkansas in Little Rock. In 1977, Dr. Howard received his M.D. degree from the University of Arkansas College of Medicine. He served his internship at Fayetteville and is a resident in Family Practice at the Area Health Education Center in Fayetteville, 241 Spring Street.

DR. RICHARD JUSTISS

Dr. Richard Justiss has been accepted by the Washington County Medical Society as an intern-resident member. Dr. Justiss is a native of Little Rock, received his B.S. degree from the University of Arkansas, and his M.D. degree from the University of Arkansas College of Medicine in 1977. He is currently serving his Family Practice internship and residency training with the Area Health

Education Center, 241 West Spring Street in Fayetteville.

DR. LINDA A. MARKLAND

Dr. Linda A. Markland has been accepted into the membership of the Washington County Medical Society. Dr. Markland is a native of Malvern. She received her pre-medical education at the Little Rock University and was graduated from the University of Arkansas College of Medicine in 1971. She completed her internship and residency training in Pediatrics at the University of Arkansas Medical Center. Dr. Markland served as assistant professor in the Department of Family Medicine at the University of Arkansas College of Medicine from 1974 until 1977. She currently serves as assistant professor at Northwest Arkansas Area Health Education Center in Fayetteville. Dr. Markland is board certified in Pediatrics and Family Practice.

DR. WILLIAM C. MILLS, III

Dr. William C. Mills, III, is a new member of the Washington County Medical Society. He was born in Annapolis, Maryland, and received his B.S. degree in biology at Southern Methodist University, Dallas, Texas, in 1966. Dr. Mills was graduated from the University of Texas Medical Branch in Galveston in 1970. He served in the United States Air Force from 1970 until December 1977. During his enlistment, Dr. Mills completed his internship and Radiology residency training at Wilford Hall United States Air Force Medical Center in San Antonio, Texas. He was also stationed at Carswell Air Force Base, Fort Worth, Texas, for one year.

Dr. Mills is board certified by the American Board of Radiology and is associated with Northwest Arkansas Radiology Associates in Fayetteville. He specializes in diagnostic radiology.

DR. JAMES D. PICKETT

The Washington County Medical Society has accepted Dr. James D. Pickett into its membership. Dr. Pickett was born in Texarkana, Texas, and received his Bachelor of Science degree from Southern Methodist University in Dallas, Texas, in 1965. In 1969, Dr. Pickett was graduated from the University of Arkansas College of Medicine. He completed his internship at Emory University Affiliated Hospitals, Atlanta, Georgia, and served in the United States Air Force from 1970 until 1977.

While in the Air Force, Dr. Pickett served as

General Medical Officer for two years. He then completed a four year urology residency at Wilford Hall United States Air Force Medical Center, San Antonio, Texas, in 1976. From 1976 until July 1977, he practiced Urology at Carswell Air Force Base, Fort Worth, Texas. Dr. Pickett specializes in Urology at 1300 Zion Road, Fayetteville.

DR. RICHARD SCHRATZ

Dr. Richard Schratz is another resident to be added to the membership of the Washington County Medical Society. He was born in Jackson County, Arkansas, and received his B.A. degree in 1970 from the University of Arkansas in Fayetteville. In 1974, he was graduated from the University of Arkansas College of Medicine and continued at the Medical Center for his internship. Dr. Schratz was in the United States Public Health Service and served the community of Downey, Idaho, for two years. He is completing his Family Practice residency training at the Northwest Arkansas Area Health Education Center, 241 West Spring, in Fayetteville.

DR. LARRY TUTTLE

Dr. Larry Tuttle has joined the Washington County Medical Society as a resident member. He is a native of Oklahoma City, Oklahoma, and received his B.S. degree from the University of Oklahoma in 1973. Dr. Tuttle was graduated from the University of Oklahoma School of Medicine in 1977. He is currently completing his Family Practice internship and residency training at the Northwest Arkansas Area Health Education Center, 241 West Spring, Fayetteville.

DR. JOSEPH T. YOUNGBERG

The Washington County Medical Society has accepted Dr. Joseph T. Youngberg into its membership as a resident member. He was born in Greenville, South Carolina. In 1972, he was graduated from Centre College of Kentucky at Danville, with a B.S. degree and he received his M.D. degree from the University of Arkansas College of Medicine in 1976. Dr. Youngberg is a second year Family Practice resident at the Northwest Arkansas Area Health Education Center in Fayetteville.

DR. VU QUANG BAN

Dr. Vu Quang Ban has been accepted into the membership of the Woodruff County Medical

Society. He was born in Hanoi, Vietnam, and received his pre-medical certificate from the University of Saigon/Faculty of Science in 1963. In 1969, Dr. Vu Quang Ban was graduated from the University of Saigon College of Medicine, and was in general practice at Longkhanh City, Vietnam, for six years. In 1976, he completed his post-

graduate medical education at the University of Arkansas College of Medicine, and served his internship at the University of Arkansas Medical Center.

Dr. Ban is in General Practice at the Cotton Plant Medical Clinic.



OBITUARY

DR. MARTIN ERNEST BLANTON

Dr. Martin E. Blanton of Jonesboro died April 1, 1978. Dr. Blanton was born December 23, 1903, in Mosheim, Tennessee. He attended the University of Tennessee in Knoxville, for two years prior to entering the University of Tennessee Medical School in Memphis, where he received his M.D. degree in 1930. Dr. Blanton completed his internship at St. Joseph Hospital, Memphis, and his residency training in Ophthalmology was at the Memphis Eye, Ear, Nose and Throat Hospital.

Dr. Blanton practiced in Johnson City, Tennessee, for two years and then served two years at the Veterans Hospital in Fort Lyon, Colorado, prior to locating in Jonesboro in 1937. Dr. Blanton served in the United States Army during World War II and was stationed at Brooke General Hospital, San Antonio, Texas, and at Fort Sill, Oklahoma. He returned to Jonesboro in 1946, where he practiced until his death.

Dr. Blanton was a member of the Ophthalmology Section, Arkansas Medical Society and a life member of the Southern Medical Association. He was a member of the medical staff of St. Bernard's Regional Medical Center and the Craighead Memorial Hospital in Jonesboro. Dr. Blanton had served as chief of the medical staff of St. Bernard's in 1952. He was a member of the Jonesboro Masonic Lodge, the Northeast Arkansas Shrine Club and Scottish Rite Bodies. Dr. Blanton was also a member of the Brown Springs Baptist Church in Mosheim.

Dr. Blanton is survived by his wife and one daughter, Mrs. Lewis O'Neal.

DR. ROSS BIZZELL

Dr. Ross Bizzell of Little Rock died April 8, 1978. Dr. Bizzell was born March 7, 1915, at Bauxite, Arkansas. He received his elementary and high school education in Bauxite, and was graduated from the Central Young Men's Christian Association College in Chicago, Illinois, in 1933. Dr. Bizzell was graduated from the University of Arkansas College of Medicine in 1940, and completed his residency training at Baptist Hospital in Little Rock. He was in Family Practice in Little Rock at the time of his death.

Dr. Bizzell was a member of the honorary medical staff at Baptist Medical Center. He was a thirty-second degree Mason and a member of the First United Methodist Church in Little Rock. Dr. Bizzell is survived by three daughters, Miss Mary Elizabeth Bizzell and Mrs. Rondell J. Carter, of Little Rock; and Miss Joy Ann Bizzell of Fayetteville.

DR. JOHN HENRY WESSON

Dr. John H. Wesson died April 29, 1978, at the age of fifty-six. Dr. Wesson was the director of the State Regional Health Department in Nashville. Before becoming associated with the Health Department, he was in Family Practice for twenty-two years in Nashville.

Dr. Wesson attended Ouachita Baptist University at Arkadelphia and received his medical degree from the University of Arkansas College of Medicine. He was a member of the American Academy of Family Physicians and Arkansas Public Health Association; Howard County Farm Bureau, National Rifle Association and the Sunset Church of Christ. He was also a Mason, a Shriner, and a veteran of World War II.

Dr. Wesson is survived by his wife, Mrs. Zelda Campbell Wesson, and a son, John Howard Wesson of Nashville.

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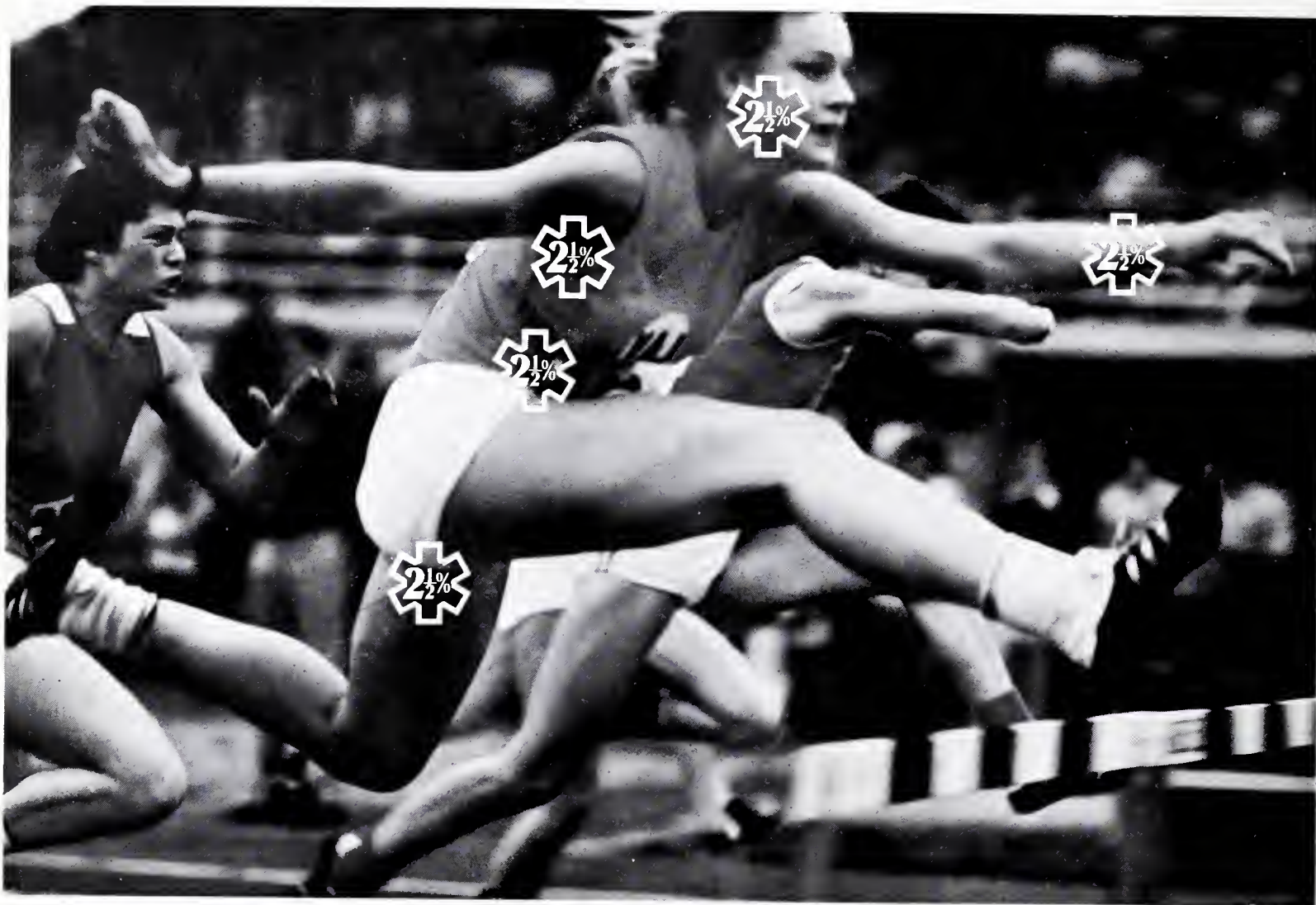
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Kell Hemolytic Disease of the Newborn: A Case for Expanded Prenatal Antibody Screening

Mary Ann Spivey, M.T.(ASCP)SBB,* Joe T. Wilson, M.D.** and H. L. Taylor, M.D.***

ABSTRACT

A case of Kell hemolytic disease of the newborn is reported, illustrating the need for antibody screening of *all* pregnant women, regardless of Rh type, early in pregnancy and again at 28 and 35 weeks of gestation.

We recently saw a mild case of hemolytic disease of the newborn (HDN) caused by anti-Kell. In HDN, antibody produced in the mother capable of crossing the placenta, reaches the fetal circulation and causes accelerated destruction of the fetal red cells which bear the corresponding antigen, in this instance, Kell.

Primary immunization of a Kell-negative woman is either accomplished through transfusion of Kell-positive blood or by fetomaternal hemorrhage (FMH) during delivery of a Kell-positive, and probably an ABO compatible infant. It is not thought to occur during pregnancy except in rare instances because passage of fetal cells into the maternal circulation of magnitude for primary sensitization does not generally occur before delivery. Risk of sensitization appears to be directly proportional to the amount of fetal blood entering the maternal circulation.¹ During a subsequent pregnancy with a Kell-positive fetus small amounts of fetal cells passing into the maternal circulation can cause a rise in antibody titer. This secondary response requires only a small stimulus compared to the primary stimulus,² and is characterized by the production of high titers of antibody over a short period of time.³

Though Kell is considered to be a fairly "antigenic" red cell factor, cases of Kell HDN are rare when compared to ABO HDN and Rh HDN due to anti-Rh₀(D). Kell HDN is slightly rarer than Rh HDN due to anti-hr'(c) or anti-rh''(E).³ Kell has been estimated as being six to ten times less antigenic than Rh₀(D). The frequency of Kell is lower also with only about 10% of people being Kell-positive whereas about 85% are Rh₀(D)-positive in this country. Transfusion appears to be a more effective method of sensitization than pregnancy. In two documented cases of Kell HDN, women were shown to have been previously transfused with their husbands' blood,³ an unsound transfusion practice in any case unless the woman is beyond childbearing age. Anti-Kell has been known to cause severe HDN⁴ and fetal death.⁵

In pre-transfusion testing, ABO and Rh typing for Rh₀(D) are required by the Standards of the American Association of Blood Banks.⁶ Although in some hospitals precautions are being taken to avoid exposing women of childbearing age to certain blood group antigens that they lack such as hr'(c), this is not a common practice. Blood for transfusion generally is not typed for any of the multitude of less antigenic red cell factors (several hundred are now known), unless antibody screening of a patient's blood reveals that an atypical antibody to one of these antigens is present. Because of the practice of routine Rh₀(D) typing since shortly after discovery of this factor in 1940, and the introduction of Rh₀(D) immune globulin in the late 1960's, HDN due to anti-Rh₀(D) is on the decline.⁷ Consequently, HDN due to the more uncommon antibodies such as anti-Kell is assuming relatively greater significance.

CASE REPORT

Mrs. F. is group A, Rh₀(D)-positive, Kell-nega-

*Director of Education, Carolina Lowcountry Red Cross Blood Center, Charleston, South Carolina 29401. Reprint requests to Mrs. Spivey at the above address.

**From the Department of Pathology, St. Bernard's Regional Medical Center, Jonesboro, Arkansas 72401.

***Assistant Medical Director of Carolina Lowcountry Red Cross Blood Center and Assistant Professor of the Department of Laboratory Medicine, Medical University of South Carolina, Charleston, South Carolina 29401.

tive. In 1966 her first pregnancy terminated in delivery of a normal male (K. F.) who has subsequently been found to be Group A, Rh₀(D)-positive, Kell-negative. Nine days postpartum Mrs. F. was treated for hemorrhage of undetermined origin with two units of group A, Rh₀(D)-positive, (Kell type unknown) whole blood. In April, 1975, Mrs. F.'s prenatal antibody screening was negative. In December, 1975, her second pregnancy terminated in delivery of a normal female, A. F. This infant was observed to be jaundiced twenty-eight hours after delivery. A direct antiglobulin test was weakly positive (1+) and a Rubin Ether Eluate⁸ from the baby's cells revealed anti-Kell as the offending antibody. Though the baby could not be Kell typed in the standard manner by indirect antiglobulin technique, since her cells were positive by direct technique, a special slide Kell antiserum* was used. The baby's cells gave a positive reaction with an appropriately negative albumin cell control. The infant's bilirubin was 8.8 mgs.%. It rose to a peak of 10.8 mg.% the same day and then began to fall. The baby was discharged two days later and continued to do well. A blood specimen was collected from Mrs. F., and the anti-Kell titer was 1:16 by antiglobulin technique. No pre-delivery blood specimen was available. Mr. F. was found to be A, Rh₀(D)-positive and heterozygous Kell-positive.

DISCUSSION

In the mild case of Kell HDN described in this report, the postpartum anti-Kell titer was not particularly high and may have been lower before delivery. This was fortunate because the immunohematologic disorder was not suspected until the child became jaundiced. Most physicians do not consider fetal monitoring by amniocentesis unless the antiglobulin titer is over 1:32 or there is a history of stillbirth or severely affected infants. Mrs. F. was probably sensitized through blood transfusion nine years ago. There does not appear to have been trauma during this pregnancy capable of causing a large enough FMH for primary sensitization. Since Mrs. F. had a negative antibody screening test early in her second pregnancy, her titer as a result of the primary stimulus may have dropped below a detectable serological level with the passage of time if, indeed, it had ever previously reached

such a level. In some instances of primary response, individuals may be "primed" without demonstrable antibody being present.³

In Mrs. F.'s case a repeat antibody screening at 28 to 35 weeks gestation probably would have revealed anti-Kell. It has been almost universal policy to do antibody screening only on Rh₀(D)-negative women more than once during a pregnancy unless the initial screening done in the first trimester was positive. Cases such as the one we have described indicate a need to reassess this policy, particularly if the Rh₀(D)-positive woman has had previous pregnancies or transfusions. This case anticipated by one month the following statement in the American College of Obstetricians and Gynecologists *Technical Bulletin*:

"At their first visit in each pregnancy, all patients should have antibody screening performed with identification and titer of the antibody. Regardless of the Rh typing of the patient, if no antibody is present, antibody screening and identification should be repeated at a minimum of 28 and 35 weeks of gestation to be sure that no anti-Rh or any other antibody appears during pregnancy. This includes women who have received Rh₀(D) Immune Globulin after their previous pregnancy..."⁹

SUMMARY

Through early detection, preventive medicine, and effective treatment, the morbidity and mortality of neonatal infants due to Rh₀(D) Hemolytic Disease of the Newborn has been dramatically decreasing during the last decade. Current practices of scheduling prenatal antibody screening for Rh₀(D) positive women only once, early in pregnancy, are inadequate for detection of other antibodies which may cause Hemolytic Disease of the Newborn. This paper reports such a case and outlines a schedule of antibody screening tests for women early in pregnancy and again at 28 and 35 weeks gestation, which would alert the patient's physician of possible clinical complications due to this immunological disease entity by early detection.

ACKNOWLEDGMENTS

The authors gratefully acknowledge the assistance of the following physicians in the preparation of this report: J. W. Basinger, D. M. Berry, R. W. Johnson, C. E. Kemp, D. J. Kroe, J. T. St. Clair and D. B. Vollman.

*Ortho anti-Kell, Human, for slide test and indirect antiglobulin test for in vitro diagnostic use — lot RKST97.

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Palliation for Cerebral Metastasis from Carcinoma of the Lung*

S. R. Neece, M.D., and Faculty** in Neurosurgery at U.A.M.S.

INTRODUCTION

Even today, the efficacy of neurosurgical treatment of central nervous system metastasis from carcinoma of the lung remains controversial. Our medicine and family practice colleagues remain reluctant to recommend surgery for their patients and radiation oncologists are inclined to irradiate to the exclusion of pre- or post-irradiation surgical excision. With these challenges to neurosurgical therapy in mind, we recently undertook an evaluation of our experience with bronchogenic carcinoma at the University of Arkansas Medical Center and V. A. Hospitals in Little Rock. We were encouraged in the initiation of this review by an earlier report in 1971 in the *American Journal of Roentgenology and Radium Therapy* which indicated that an unwarranted pessimism had obscured the evaluation of the results of surgical treatment of single metastatic brain lesions.¹

Perhaps the controversy stems in part from differences of opinion as to (1) what constitutes satisfactory amelioration for this disease, and (2) whether surgical excision actually offers a sufficiently rewarding enhancement in the quality of life which remains for these patients. With rare exceptions, this disease is fatal and we must be satisfied with amelioration of its effect. Though our goals are symptomatic relief and enhancement of the quality of survival, infrequent cures and a significant percentage of long-term survivors have been reported. There has even been a case of spontaneous regression. These case reports were reviewed by Dr. William Mosberg and a twelve-year cure was reported in the *Journal of the American Association* in June of 1976.² One of our own staff has followed a similar long-term survivor eleven years.

CLINICAL MATERIAL

Clinical profiles for our patients were very

similar to those reported in the *Journal of Neurosurgery* in 1971.³ This is a disease primarily affecting Caucasian males, but it is not a disease of the elderly. Most of our patients were in their prime productive years. Eighty-eight per cent of our patients were Caucasians and the male to female ratio was 3.5 to 1. Two-thirds of afflicted males were 50-70 years old; twenty per cent were in their forties. Two-thirds of afflicted females were 45-55 years of age.

The presenting neurologic symptoms in our series, again, were not dissimilar. Hemiparesis and headache dominated, each occurring in fifty per cent. Mental changes and seizures were somewhat less frequent, occurring in thirty per cent and twenty per cent respectively. Aphasia was noted in ten per cent of patients, diplopia in seven per cent of patients, and hemianopsia in five per cent. In addition, all patients with cerebellar lesions presented with ataxic symptoms. Perhaps more important was the discovery that sixty per cent of our patients developed symptoms of the CNS metastasis as a first sign of their primary disease. A similar experience was reported by Dr. Edwin McGee in his University of Kansas study. Eighty per cent of his patients developed CNS symptoms as the first sign of their disease.³ Symptoms of CNS metastases rarely preceded the definitive diagnosis more than two months and were less than a month in duration in half of the cases. When the primary lung lesion was diagnosed first, this was within a year of the appearance of CNS metastasis in over two-thirds of our cases.

PERSPECTIVES

From the outset, it was anticipated that benefits would be modest. The lung is the most frequent site of fatal cancer in males, accounting for nearly a quarter of the total cancer mortality. Though reports vary widely, approximately thirty-five per cent of these people will be afflicted with central nervous system metastases. Furthermore, as many as seventy per cent of patients with central nervous system metastasis will have multiple lesions in post-mortem studies. As

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a general rule, no matter what treatment is utilized, most patients with clinically recognized multiple metastases will not survive six months.

With these considerations regarding multiple metastases in mind and in hopes of achieving the best possible results, our preferred treatment was surgical excision of solitary metastasis followed by whole-head irradiation, usually 5000 rads given over a five-week period. In actuality, the treatment given any individual patient was based on multiple considerations including the course of the patient's disease and his overall medical condition. Decadron was used liberally in all aspects of therapy for its effects on cerebral edema. It was considered routine for the proper medical management of these patients.

RESULTS

Our patients fell into one of six categories of treatment. These were, (1) no treatment, (2) radiation therapy only, (3) radiation therapy and chemotherapy, (4) surgical excision only, (5) surgical excision followed by whole-head radiation, and (6) operative deaths. We would like to focus on eighteen patients in category five among the forty-one patients evaluated who received a treatment program which we considered optimal. We recognize the selection process involved in choosing these patients whose general health was good and who appeared to have single cerebral metastasis when treatment was initiated.

Our operative mortality was low: fifteen per cent. All but one of the surgical deaths (occurring within one month of surgery) occurred in patients with severe neurologic deficit and signs of brain stem decompensation. Attempts to salvage these patients were made in desperation. It has been our experience that patients are generally recovered from the operation within ten days of surgery. Operative convalescence then is not a factor affecting the quality of survival of these patients.

In order to demonstrate the selection process involved in choosing patients, the following brief preview of patients in other categories is presented. (Table I.)

A group of patients with multiple metastases evident at the time of diagnosis, and those whose general medical condition was poor because of advanced pulmonary disease were given only supportive care. Two-thirds of these were dead within one month. None survived three months.

These results are identical to those noted by other clinicians for untreated patients.

A second group of patients whose lives were not immediately endangered by the CNS metastasis were given palliative irradiation. These patients fared better. Mean survival for these patients was five months with a range of two to fourteen months. Effective palliation, however, was only three months with a range of one to five months. Similar results were presented at the 52nd Annual Meeting of the American Radium Society in 1970.⁴ Identical results were also published in the American Journal of Roentgenology and Radium Therapy in February of 1971.⁵ Patients selected for those studies included those with both single and multiple lesions. Fifteen per cent of those patients survived a year.

A single effort at chemotherapeutic palliation ended with an infectious complication.

A fourth group of patients declined radiation therapy following craniotomy. Multiple metastases adversely affected the course of three of the four. The fourth, however, survived nine months after excision of two contiguous lesions with only a residual hemianopsia.

In all four of these categories there was a slight preponderance of undifferentiated tumors. Though the data are not statistically significant this might explain the preponderance of multiple lesions in these groups of patients.

Eighteen patients among the entire group of forty-one received a treatment regimen which we considered optimal. (Table II.) Sixteen of these suffered cerebral metastasis and two cerebellar metastasis. Only three patients did not derive benefits from surgery and all were dead within six months of surgery of multiple cerebral metastases. Three other patients were improved by

TABLE I
TREATMENT CATEGORIES FOR PATIENTS
WITH CEREBRAL METASTASIS FROM
BRONCHOGENIC CARCINOMA
Total — 41 Patients

- I. No treatment — 6
- II. Radiation Therapy Only — 8
- III. Radiation Therapy and Chemotherapy — 1
- IV. Surgical Excision Only — 4
- V. Surgical Excision Followed By
Whole-Head Irradiation — 18
- VI. Operative Deaths — 4

TABLE II
SURGICAL EXCISION FOLLOWED BY
WHOLE-HEAD IRRADIATION

18 Patients

- 6 — Survived Less Than 6 Months
 - 3 not improved by surgery — multiple metastasis later apparent
 - 3 improved by surgery — multiple metastasis apparent subsequently
- 3 — Survived 6-12 Months (17%)
 - All improved by surgery
- 9 — Survived Greater Than 12 Months (Range 13-36 Months — Mean 18 Months) (50%)
 - All improved by surgery

surgery but died within six months. They were found to have multiple metastases at autopsy. Three additional patients survived six to twelve months and all were improved by surgical excision of their lesions. Nine of the eighteen patients with cerebral or cerebellar metastasis survived more than one year with a mean survival of eighteen months. These survivors represented fifty per cent of the group of patients who received optimal treatment; twenty-two per cent of all forty-one patients reviewed. Adding the four operative deaths to this group of eighteen, realizing that survival would have made them candidates for combined management, the one-year survival drops to forty-one per cent.

Among the nine surviving patients were four with single metastasis of squamous cell carcinoma, all of whom enjoyed an exceptional survival of two to three years. The better prognosis for these patients has been considered related to the better differentiation of neoplastic tissue. A review of the tissue diagnosis for long-term survivors, not distinguished by treatment category,

showed a slight preponderance for squamous cell carcinoma.

Survival following craniotomy appeared unrelated to the treatment of the primary disease. In contrast, the data did indicate that survival relative to the time of diagnosis of the primary disease was improved by treatment of the primary disease.

CONCLUSIONS

Expectations are limited, but significant amelioration can be achieved for those patients having a single brain metastasis. In previously published studies on the results of whole-head irradiation alone, fifteen per cent of the patients survived one year or more. In our total group of patients, twenty-two per cent survived more than one year. However, among those patients selected for surgical excision of metastasis followed by whole-head irradiation, fifty per cent survived greater than one year, with a mean survival of eighteen months. When the tissue diagnosis was squamous cell carcinoma, exceptional survivals of two to three years were found.

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Office Orthopaedics

Legg-Perthes Disease

Philip H. Johnson, M.D.*

A six-year-old male presents with a three-week history of progressive but intermittent hip pain and limp. He is otherwise healthy but does have a history of a fall while playing which seems to have initiated this problem. Physical examination reveals definite restriction of motion in the hip and X-rays show early avascular signs in the femoral head. Treatment will consist of a long process of bracing which will span two to three years. Perthes disease will change this young boy's life. For years he will be encumbered with an appliance which he will neither understand or appreciate. In the final analysis he will probably be left with a deformity of the hip which will extend into adulthood, only to begin again in middle age to give him hip pain and restriction of activities. The exact cause of this avascular necrosis of the femoral head is still unknown.

HISTORY

Arthur T. Legg⁴ in June of 1909 read a paper before the American Orthopedic Association describing a hip disease afflicting five children. He published four of the cases in 1910 and suggested the possibility of a traumatic avascular necrosis as cause. A Frenchman, Jacques Calvé,¹ in 1910, described ten patients ages three to ten years who had a peculiar hip condition of obscure etiology which he called, "Pseudocoxalgie." In October of 1910 Georg Perthes⁶ described a similar disease in six patients interpreted as juvenile osteoarthritis and called it "arthritis deformans juvenilis." Swede H. Waldenström⁹ in 1909 described the same condition but felt it represented tuberculosis of the hip. Since these early be-

ginnings, the pathophysiology has been established as avascular necrosis of the capital femoral epiphysis. The cause for this strange occurrence, however, remains obscure.

Gaucher's disease, due to its perivascular infiltration of Gaucher's cells, has produced avascular necrosis of the femoral head. The microthrombi of sickle cell anemia and the high dose of Cortisone therapy associated with renal transplantation have been known causes. Traumatic causes (femoral neck fracture and dislocation of the hip) likewise may produce the characteristic avascular phenomenon. Transient synovitis of the hip has been implicated as a possible etiologic agent but its definite causal relationship has not been proven. Congenital dislocation of the hip, treated with vigorous internal rotation and abduction, will increase intra-articular pressure and sometimes produce avascular necrosis. For the vast majority of cases, however, the cause for this vascular insufficiency remains obscure.

INCIDENCE

This condition occurs between ages two and twelve with the peak incidence between four and eight. An incidence of eight per one thousand occurs in the white population. There is a four times greater incidence in boys. The condition is rare in blacks. A delayed skeletal maturation by one to two years has been observed making a differential diagnosis with cretinism necessary. A survey of birth weights in these children reveals a statistically significant lower birth rate in patients affected with this disease. A strong familial tendency has been reported and a history of trauma is frequent. Ten percent of cases are bilateral.

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CLINICAL

The patients present with varying degrees of hip pain and limp. At one end of the spectrum is the patient with a severe synovitis of the hip with considerable pain and muscle spasm and inability to bear weight. At the other end is the patient forced to come to the doctor by the parents, denying hip pain but with a detectable limp. Restriction of motion in abduction, extension and internal rotation is present at some time in all cases. After a period of bedrest the range of motion will return to normal, although this may require weeks. The child is not ill and all laboratory tests other than the X-rays are negative.

PROGNOSIS

As the clinical course is varied so is the prognosis. Varying degrees of necrosis occur in the femoral head (Figure 1). The "whole head" type represents total necrosis of the capital femoral epiphysis. A "partial head" variety involves only the anterolateral half of the femoral head and has a much better prognosis. Age of onset has a significant relationship with the final outcome. The earlier the age of onset the better the final result. Onset before age four will result in a normal head. The stage of involvement at the onset of treatment and the type of treatment

has also a definite relationship with the final outcome.

CLASSIFICATION

Waldenström in 1922¹⁰ was the first to describe several stages which occur during the self-limited course of this disease. Dividing the natural history of this condition into four stages has been a convenient way to follow its course and outline treatment. The following classification divides the disease into four stages, each with its characteristic pathophysiology and X-ray changes (Figure 2).

Stage I—Synovitis Stage (duration—one to three weeks). During this stage the disease presents as synovitis of the hip joint. Soft tissue involvement is all that can be detected and differential diagnosis with other forms of synovitis is important. X-rays during this stage reveal joint effusion by distended capsular shadows, increased width of the Köhler teardrop distance and widened joint space. Osseous changes have not yet become obvious. Increase in density of the head during this stage is a result of surrounding decalcification.

Stage II—Avascular Stage (duration—six months to one year). During this stage the femoral head is dead, in part or as a whole. X-ray changes include subchondral linear lucency in the anterior part of the epiphysis on frog-leg lateral. The capital femoral epiphysis is smaller than on the normal side. Early flattening of the head may be seen. True sclerosis occurs in the head during this stage as a result of compression of necrotic trabeculae and new bone formation on dead trabeculae. Some irregularity of the epiphyseal plate occurs with metaphyseal cyst-like formation probably occupied by cartilage.

Stage III—Regenerative Stage (Fragmentation stage) (duration one to three years). During this stage "creeping substitution" of dead bone with new bone occurs. Roentgenographically the sclerotic femoral head becomes compressed, more flattened and fragmented. Lucent areas appear within the epiphysis. The femoral neck appears widened and shortened. An arthrogram done at this stage will show a normal appearing cartilaginous cap, however, not necessarily spherical.

Stage IV—Residual Stage (Repairative stage) (duration—until skeletal maturity). During this stage normal trabecular bone develops to replace dead bone. Remodeling of bone occurs until

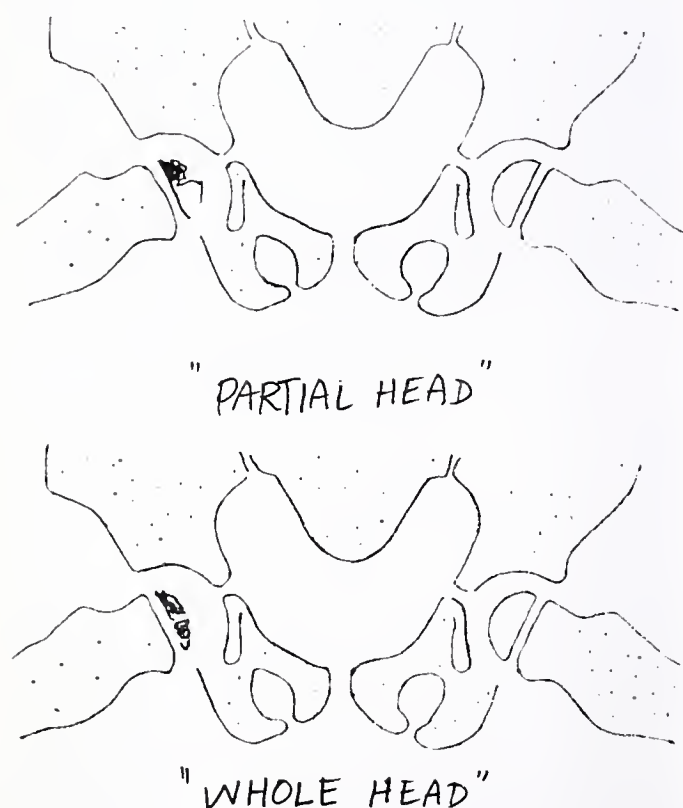


FIGURE 1.

Frog leg lateral X-rays depicting "partial head" and "whole head" involvement.

skeletal maturity at which time the variably deformed femoral head unites across the epiphyseal plate with the neck. X-ray changes at this stage will show reossification of the lucent fragmented femoral head. There will be varying degrees of deformity and asymmetry present. The femoral neck will usually exhibit some widening and the normal spherical configuration of the head is

usually lost. There is a corresponding deformity of the acetabulum, which is secondary to the shape of the femoral head. As time goes on there will be joint narrowing as a result of motion in incongruous joint surfaces.

DIFFERENTIAL DIAGNOSIS

1. Non-specific synovitis, and pyarthrosis.
2. Rheumatoid arthritis.

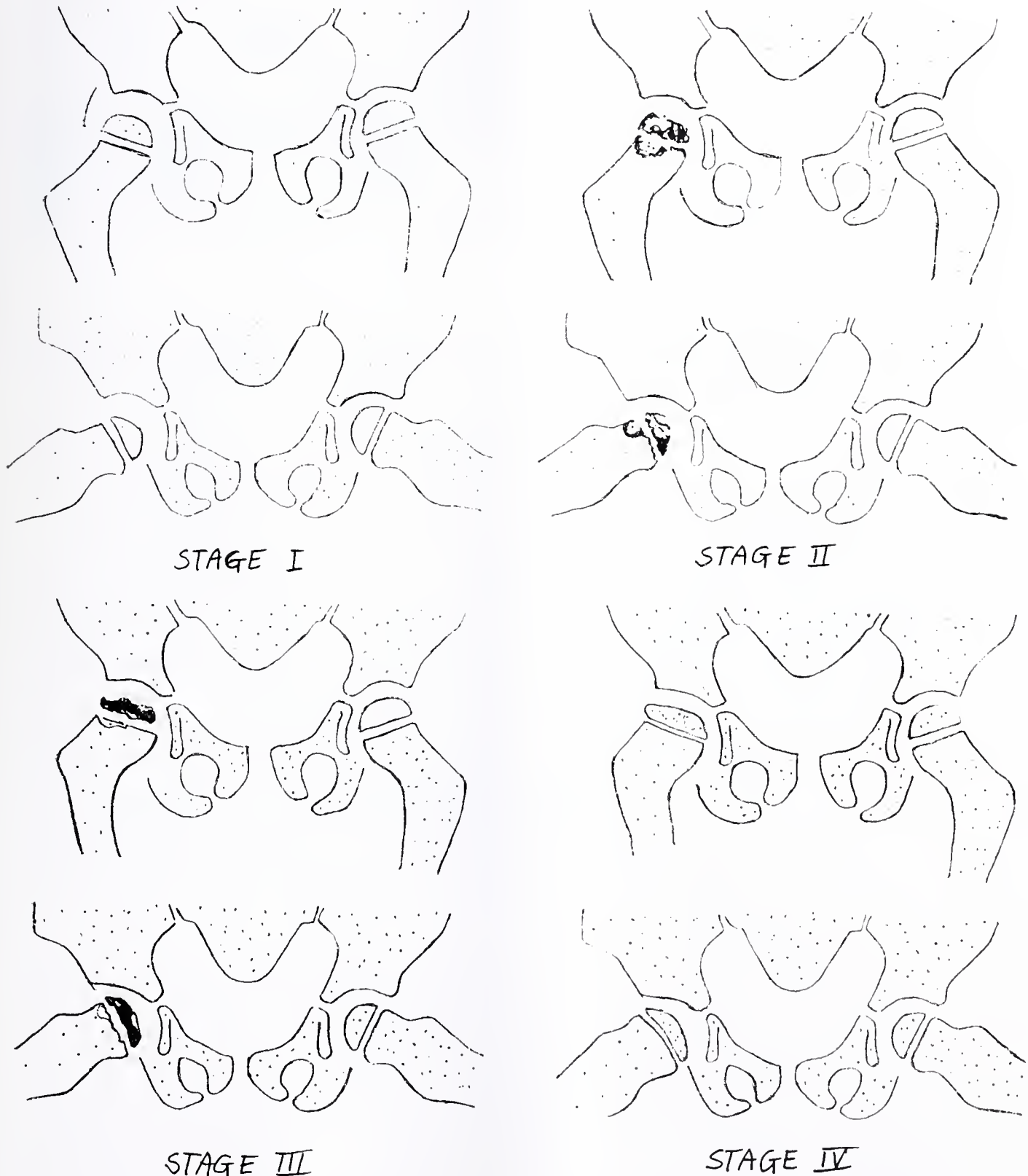


FIGURE 2.
A. P. and frog leg lateral X-rays illustrating each of the four stages of Legg-Perthes disease.

3. Tuberculosis.
4. Gaucher's disease and sickle cell disease.
5. Chondrodystrophies (Fairbanks, Morquio, etc.).
6. Cretinism.
7. Chondrolysis.
8. Hemophilia.

TREATMENT

The primary objective of all forms of treatment is to maintain normal sphericity of the head while the natural history of the disease runs its course. At the same time the child's emotional and mental development should be considered. It is felt that the femoral head should remain covered, within the confines of the acetabulum. This, it is felt, will maintain the shape of the head during the "soft" avascular stage. The word "containment" has become popular to describe this principle of treatment. During the initial stages strict bed rest is necessary until a return to full hip motion occurs. Following this the old treatment of bedrest and non-weight bearing has given way to ambulation in abduction.

Prior to 1930 most emphasis was placed upon making a proper diagnosis so that tuberculosis and other infectious diseases of the hip could be properly identified and treated. Perthes disease was recognized as a self-limited disease running an inevitable course. In most cases it resulted in a better hip than other more devastating diseases. In the 1930's non-weight bearing came into vogue carrying with it years of confinement and strict bedrest. Traction was added to this regimen with encouraging results. Following this, ambulatory treatment with the ischial weight bearing caliper became popular. The non-weight bearing principle on crutches was continued with the foot held in a retaining strap (Sam Brown belt). Petrie⁷ of Toronto popularized the ambulatory weight bearing treatment of this disease with the legs in casts separated by cross bars. The hips were held in a position of 45 degrees abduction and 10 degrees internal rotation. In this position the femoral heads were "contained" within the acetabulum, which exerted a molding affect on the femoral head. This concept has been perpetuated in the Toronto brace (Figure 3), which holds the extremities in the same position with regard to the hips but permits knee flexion. The Newington brace follows the same treatment concept



FIGURE 3.
Toronto brace.

and has been popularized by Curtis. Both of these braces involve incorporation of both legs and are ideal for the bilateral case. Tachdjian⁸ has advocated the use of the trilateral socket hip abduction brace. This incorporates the same concepts of abduction and internal rotation of the hip in an ischial weight bearing caliper. This is generally used for the unilateral case.

The endpoint of brace treatment varies with different authorities from "complete healing" to varying stages of bone regeneration. Pappas⁵ removes the brace "when surface contour reforms." I feel that, when the subchondral bone plate in the frog leg lateral has been reconstituted even though some cystic changes remain, ambulation without a brace is permissible. In total head involvement this may require three years, sometimes longer. Partial head involvement requires much less time, averaging approximately nine months. Perthes in a child less than four years of age has an excellent prognosis without treatment.

Surgery for Perthes disease goes back to the 1930's when multiple drilling procedures into the head and neck were advocated with varying results. Craig² reported femoral osteotomies primarily for excessive anteversion and since that time pelvic and femoral osteotomies have been advocated to increase containment of the femoral head within the acetabulum. Garceau³ chiseled off the prominent lateral portion of the epiphysis which was produced after flattening. At the pres-

ent time, surgery for Perthes disease has not yet proven itself to substantially alter the course of the disease. It is therefore reserved for the isolated case where there is failure to manage the patient conservatively or where specific indications dictate.

CONCLUSION

Legg-Perthes disease in summary, is a self-limited disease caused by avascular necrosis of the capital femoral epiphysis which runs a predictable natural history. It occurs more frequently in white male children between the ages of five and seven and is bilateral in 10% of cases. There is a pronounced familial predisposition. Treatment lasts from one to three years depending on the involvement of the head. At the conclusion differing degrees of femoral head deformity result which can produce joint incongruity, leading to early osteoarthritis as an adult. Conservative treatment with some orthosis, which provides containment of the femoral head within the acetabulum, is employed. The etiology of this avascular necrosis remains a mystery.

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ELECTROCARDIOGRAM



OF THE MONTH

The Department of Cardiology, University of Arkansas College of Medicine
(See Answer on Page 89)

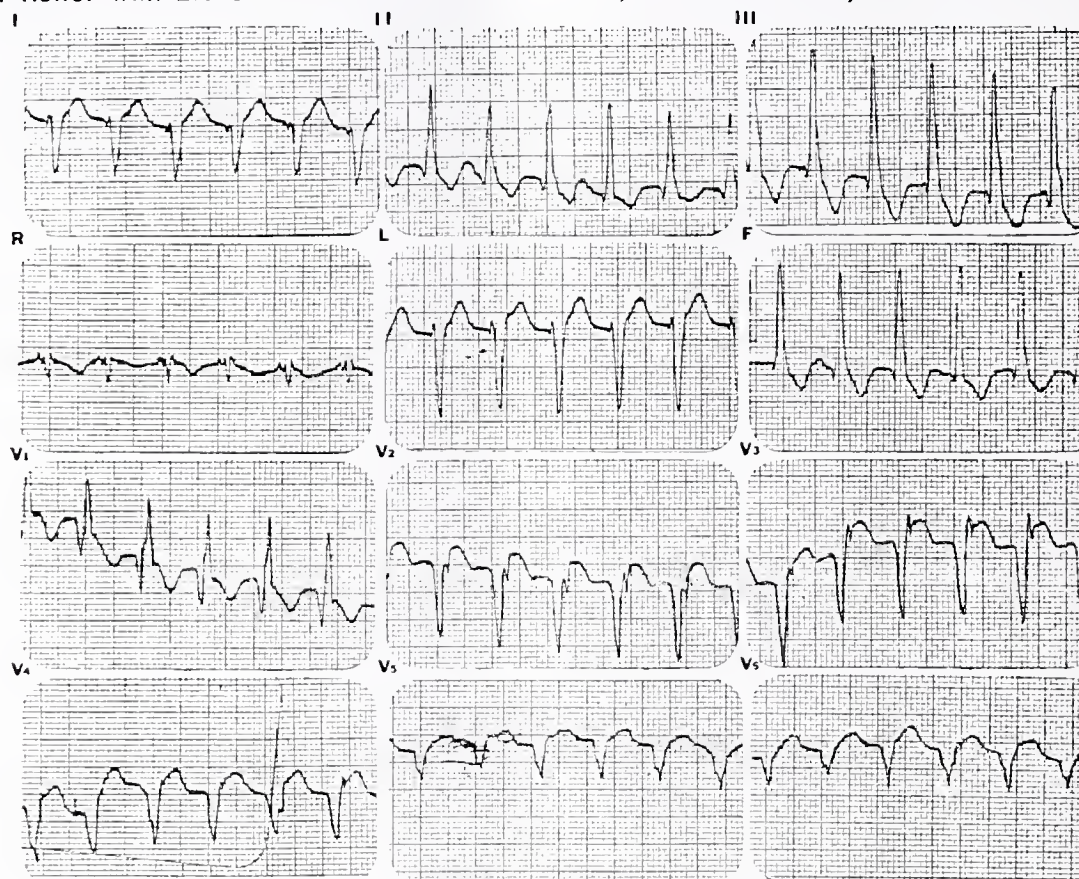
Mr. M. is a 61-year-old white male farmer who had the onset of nocturnal palpitations two months prior to admission. The episodes of palpitations are not incapacitating to the patient being associated with mild vertigo and abating spontaneously after one or two hours. He experienced anterior myocardial infarction ten years prior to the current time but has since been able to do his work without the need of medications of any sort. He presented after a longer episode.

His blood pressure was 100/60 mmHg. Cannon waves could not be identified in his neck. S1 was difficult to assess because of the heart rate. A PA chest film was suggestive of a left ventricular aneurysm.

The patient's ECG is shown below. Vagal maneuvers, pressor agents, Tensilon, Inderal, and Lidocaine yielded no changes in rate or rhythm. An esophageal lead was positioned and is shown below.

The arrhythmia is most likely which of the following:

- a) atrial fibrillation with aberrant conduction.
- b) atrial flutter with 2:1 conduction.
- c) ventricular tachycardia.



ESOPHAGEAL LEAD

ELECTROCARDIOGRAPH REQUEST



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Choice of Oral Contraceptives for a Large Family Planning Program

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There are too many brands and dosages for the relatively small number (5) progestins in use and the 2 estrogens used in combination oral contraceptives, (O. C.), see *Table I*. This table does not include the "minipill", which contain *only* a progestin (e.g.: Nor. QD, Ovrette, Micronor).

However, since probably no woman has precisely the same body chemistry, and most have differing needs and tolerances for progestins and estrogen, it is necessary to have O.C. with different strength estrogen dosages.

The American College of Obstetricians and Gynecologists (ACOG) recommended that patients first beginning oral contraception be started on a pill that contains no more than 50 mcg of estrogen (either mestranol or ethinyl estradiol), so does the F.D.A. Some studies indicate that mcg for mcg mestranol is the stronger estrogen. It has not been established that this holds, across the board for different women and in combination with different progestins, and amounts of progestin. In general, until proved otherwise, 50 mcg of mestranol may be considered the estrogenic equivalent of 50 mcg of ethinyl estradiol.

In addition to the dosage of progestin different progestins, mg. for mg., may generally have different systemic effects. In vivo, in use in a combined progestin and estrogen contraceptive pill these systemic effects do *not* always follow the various tests designed to measure these systemic effects, nor are they uniform in systemic action in individuals. *Table II*. contains a rough comparison of an equal dosage of five different progestins. Progestational, androgenic, estrogenic, and anti-estrogenic systemic effects are compared

with 0 showing zero; ranging up to + + + +, showing comparatively high strength of systemic effect. It is compiled from multiple data sources some of which are somewhat contradictory. A definitive attempt has been made to eliminate most personal bias.

Progestins are listed by generic name and by brand names in which they are the progestin component.

Progestins Used in Oral Contraceptives		Type and Relative Potency of Systemic Effect			
Generic Name	Brand Name	Proges- tational	Andro- genic	Estro- genic	Anti- Estro- genic
Norethindrone	Ortho-Novum				
	Norinyl				
	Brevicon				
	Modicon				
	** Nor-QD*	++	++	0	+
	** Micronor*				
Norethynodrel	Enovid	+	0	++++	0
Ethinodiol Diacetate	Demulen	++++	+	+	+
	Ovulen				—
Norethindrone Acetate	Norlestrin				
	Loestrin	+++	++	+	++
	Zorane			—	
Norgestrel	Ovral				
	Lo/Ovral	++++	+++	0	+++
	*** Ovrette*				

*Contain no estrogen ("minipill") **Norethindrone, 35 mcg
***Norgestrel 7.5 mcg

Table 2. Name, Brand Name, Relative Potency of Certain Systemic Effects of Progestins Commonly Used in Oral Contraceptives.

In most family planning programs as well as contraceptive medical practice the most fre-

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quently used pill is Norethindrone 1 mgm + Ethinyl Estrodiol 50 mcg. (Orthonovum 1/50 or Norinyl 1 + 50). Since most of the serious side effects and complications of O.C. are considered to be estrogen related, the lowest dose estrogen pill a patient may take without troublesome breakthrough bleeding *and* remain in "hormonal

balance" should be the choice. 1 + 80 pills are usually needed only where a heavier estrogen effect than average is desired.

Most contraceptive clinicians, at present, consider 30 mcg or 35 mcg of estrogen to be the lower limit for avoiding frequent breakthrough bleeding although pills are presently on the

ORAL CONTRACEPTIVES . . .
FORMULATIONS AND
DOSAGES**

Brand Name	Manufacturer	Progestogen Content, mg					Estrogen Content, mg		No. of Tablets Per Package		Year of Introduction
		Norethynodrel	Norethindrone	Ethinodiol Diacetate	Norethindrone Acetate	d. l-Norgestrel	Mestranol	Ethinyl Estradiol	Hormonal	Other	
Ovcon-50	Mead Johnson			1.0				0.05	21	7 inert	1976
Ovcon-35	Mead Johnson			0.4				0.035	21	7 inert	1976
Norlestrin 2.5/50 21	Parke, Davis				2.50			0.050	21		1970
Norlestrin 2.5/50 Fe 28	Parke, Davis				2.50			0.050	21	7 iron	1970
Norlestrin 1/50 21	Parke, Davis				1.00			0.050	21		1967
Norlestrin 1/50 28	Parke, Davis				1.00			0.050	21	7 inert	1968
Norlestrin 1/50 Fe 28	Parke, Davis				1.00			0.050	21	7 iron	1968
Ovral	Wyeth					0.50		0.050	21		1968
Ovral 28	Wyeth					0.50		0.050	21	7 inert	1968
Demulen	Searle			1.0				0.050	21		1970
Demulen 28	Searle			1.0				0.050	21	7 inert	1970
Loestrin Fe 1.5/30	Parke, Davis				1.50			0.030	21	7 iron	1977
Loestrin Fe 1/20	Parke, Davis				1.00			0.020	21	7 iron	1977
Zorane 1/50	Lederle				1.00			0.050	21	7 inert	1973
Zorane 1.5/30	Lederle				1.50			0.030	21	7 inert	1973
Zorane 1/20	Lederle				1.00			0.020	21	7 inert	1973
Lo/Ovral	Wyeth					0.3		0.03	21		1975
Lo/Ovral 28	Wyeth					0.3		0.03	21	7 inert	1976
Brevicon	Syntex		0.5					0.035	21		1975
Brevicon 28	Syntex		0.5					0.035	21	7 inert	1976
Modicon	Ortho		0.5					0.035	21		1974
Modicon 28	Ortho		0.5					0.035	21	7 inert	1976
Ortho-Novum 10	Ortho		10.00				0.060		20		1962
Ortho-Novum 2	Ortho		2.00				0.100		20		1963
Norinyl 12	Syntex		2.00				0.100		20		1964
Ortho-Novum 1/50 21	Ortho		1.00				0.050		21		1970
Ortho-Novum 1/50 28	Ortho		1.00				0.050		21	7 inert	1974
Norinyl 1 + 50/28	Syntex		1.00				0.050		21	7 inert	1967
Norinyl 1 + 50/21	Syntex		1.00				0.050		21		1969
Norinyl 1 + 80/21	Syntex		1.00				0.080		21		1968
Norinyl 1 + 80/28	Syntex		1.00				0.080		21	7 inert	1968
Ortho-Novum 1/80 21	Ortho		1.00				0.080		21		1968
Ortho-Novum 1/80 28	Ortho		1.00				0.080		21	7 inert	1974
Ovulen 20	Searle			1.0			0.100		20		1966
Ovulen 21	Searle			1.0			0.100		21		1967
Ovulen 28	Searle			1.0			0.100		21	7 inert	1967
Enovid 5	Searle	5.00					0.075		20		1961
Enovid E	Searle	2.50					0.100		20		1964

*Physician's Desk Reference, ed. 31, ©1977 by Litton Industries, Inc.

Table 1

market containing as low a dosage as 20 mcg. of estrogen.

Frequently Used Oral Contraceptive Formulae

#1. Norethindrone 1 mgm + 50 mcg. Ethinyl Estradiol is available as Orthonovum or Norinyl. The 80 mcg. ethinyl estradiol is also available in these brand names. In a large clinic population it is not usually wise to switch the principal pill used from one brand name to another with an identical formula unless there is *significant* savings with opportunity to serve more family planners. Such a change involves a large expenditure of personnel time, patient and staff confusion and upheaval, and inevitably an increased number of accidental pregnancies.

Patients on 1 + 80, however, should usually be changed to a lower estrogen pill, e.g., 1 + 50, unless there is specific reason for remaining on 80 mcg. of estrogen.

When changing any patient from one O.C. to another it should be done at the beginning of a cycle, NOT in the middle.

Logical additions to the basic 1 + 50 include:

#2. Norethindrone 0.5 mg + 35 mcg. ethinyl estradiol (brand names Modicon, Brevicon). Ovcon may also be grouped with the above two as the only differences in formula is Ovcon contains 0.4 mg norethindrone. This formula is low dosage progestin and estrogen. It may be considered a mild O.C. across the board with relatively low progestational, androgenic, anti-estrogenic and estrogenic systemic action.

#3. Norgestrel 0.3 mg. + 30 mcg. ethinyl estradiol (brand name Lo/Ovral). Lower estrogen dosage. A lower dose of a "stronger" progestin. Overall moderate progestational, androgenic, and anti-estrogenic systemic activity. A *different* progestin, much different in some ways, allowing clinicians a second progestin compound from which to choose.

#4. Norethindrone acetate 1.5 mg + 30 mcg. ethinyl estradiol (brand name Zorane 1.5/30). Loestrin Fe 1.5/30 contains identical amounts of active drugs in the first 21 tablets. The 7 "inert" tablets, however, contain a *non-therapeutic* amount of iron (ferrous fumarate).

This also is low dose estrogen combined with a larger amount of slightly stronger "different" progestin. Of the pills listed above it is likely to have strongest systemic progestational and anti-

estrogenic effect; midrange to moderate androgenic systemic effect.

Enovid contains 2.5 mg. of norethynodrel + 100 mcg. mestranol. It therefore, is relatively high dose estrogen; high estrogenic, moderately high progestational, no androgenic and no anti-estrogenic systemic effect. At present it is frequently used for therapeutic reasons—more often than as a primary oral contraceptive.

A case could be made for Demulen or Ovulen if one desired quite potent progestational, mild androgenic, and either 50 mcg. estrogen (Demulen) or 100 mcg. estrogen (Ovulen). This 5th progestin mentioned could also be reasonably expected to have a very mild systemic estrogenic effect and, in some women, a very mild anti-estrogenic effect.

Drug company advertisements and salesmen make good pitches for all the O.C.'s. However, in a large clinic practice one can probably serve most oral contraceptors with the first four named combination O.C.'s.

Minipills, containing progestins only, are usually accepted well only by the women who should have no estrogen in an O.C. A few women can accommodate to the usual absence of regular menstrual periods and the irregular shedding of endometrium with the off-and-on spotting frequently associated with all-progestin O.C.

Association of reported side effects by probable cause is shown in Table III.

Major complication by reported relationship:

A. Estrogen related:

Thrombotic disorders:

Thrombophlebitis, cerebrovascular disorders and retinal thrombosis.

B. Progestin or progestin + estrogen related:

Hypertension

Benign hepatomas

Fetal anomalies in early pregnancy

Gall bladder disease

Table 3. Major Side Effects and complications reported in Association with the use of Oral Contraceptives.

See Table IV for symptoms reportedly due to progestin and/or estrogen excess.

Estrogen Excess

Vascular headache
Hypertension
Nausea
Vomiting
Dizziness
Leg Cramps
Irritability
Bloating
Breast tenderness,
enlargement

Progestin Excess

Fatigue
Depression
Decreased Libido
Increased Libido
Days of Flow Increased
Increased Appetite
Acne
Rashes

Table 4. Some Reported Side Effects of Oral Contraceptives by Probable Excess Systemic Effect of Estrogen and Progestin (From Berger and Talwar, *Obstetrics and Gynecology*, May, 1978; and Dickey and Tyrer, *ACOG Seminar on Family Planning*, 1974.

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EDITORIAL

Hillis and Braunwald Look at Myocardial Ischemia

Alfred Kahn, Jr., M.D.

Eugene Braunwald is one of the foremost cardiac investigators. He and Hillis have recently collaborated on a series for Medical Progress in The New England Journal of Medicine (Vol. 296, p. 971, April 28, 1977) entitled "Myocardial Ischemia." They define "ischemia as a condition of oxygen deprivation secondary to reduced perfusion." Hypoxia is reduced oxygen supply with sufficient perfusion—anoxia is complete loss of oxygen delivery to tissues in the presence of sufficiency of perfusion.

Ischemia may or may not be associated with decreased left ventricular function. When ischemia produces reduced contractility, it is thought to be due to the building up of hydrogen ion concentration in the cells, which leads to a

partial failure of calcium to interact with contractile proteins. Ischemia may also affect the heart muscle in diastole which is manifested by reduced ventricular relaxation; there is also resistance to filling—and as they further point out, the ventricles empty only partially and the end diastolic volume increases; ultimately the ventricular filling pressure rises. The ventricular wall gets stiff in ischemia although it does go through a period of loss of stiffness. They cite that when ischemia impairs about 25% of the left ventricular wall, left heart failure can be detected by studying hemodynamics, and if 40% of the wall fails to function, severe heart failure occurs.

The recognition of ischemia and infarction

can be detected by various means. They discussed these modalities. The electrocardiograph shows S-T segment elevation in an infarcted area; this is thought to be due to altered ion transport across the myocardial cell—probably reflecting potassium loss from the myocardial cell. S-T segment changes are roughly proportional to coronary blood flow reduction but they do not correlate well with subendocardial blood flow soon after it is decreased. Other things which cause S-T segment elevation include drugs, temperature, sympathetic stimulation, etc. Q waves reflect transmural muscle death.

Ischemia has been studied by newer methods. Some radionuclides produce a “cold spot” where the myocardium has been injured when the patient is scanned; these scintigraphs demonstrate relative ischemia after exercise in some instances where they may be normal at rest. Some substances induce “hot spot” imaging of injured myocardium. Ischemic heart muscle has been studied by some very new methods including the use of radio-iodine labeled antimyosin antibody which tends to localize in infarctions. Cyclotron produced radionuclides have been for emission computerized tomography; transmission computerized tomography has also been used.

Enzymes released by damaged myocardial cells are widely measured as a means of detecting ischemia. One of the most valuable is a fraction of Lactic Dehydrogenase termed HBD; it peaks in 48 to 72 hours. Serum glutamic oxalacetic transaminase is another enzyme released by myocardial damage. Both of the above enzymes can be elevated by non-cardiac events. Creatinine phosphokinase has an iso-enzyme fraction M. B. which is specific for myocardial tissue—and can thus be used qualitatively and quantitatively; infarct size can be estimated by this enzyme. Myoglobin is released by injured heart cells but it is non-specific as skeletal muscle also contains myoglobin.

Much effort has gone into figuring methods of protecting ischemic myocardium. Great results have been obtained in the treatment of one of the two causes of death after ischemic episodes. Death from cardiac arrhythmia has been dramatically reduced. Death due to pump failure has not been substantially reduced. Pump failure is a function of the amount of myocardium damaged by the ischemia. Reduction of damaged myocardial tissue reduces the degree of

pump failure. Interventions, that increase myocardial damage are increasing oxygen requirements as isoproterenol, digitalis in non-failing heart, glucagon, Bretylium, tosylate, Tachycardia, and Hyperthermia; also by decreasing oxygen supply as anemia, sodium nitroprusside, etc. Some interventions reduce myocardial injury as decreasing requirements through Propranolol, counterpulsation, nitroglycerin, reducing intracellular fat, etc.; by increasing myocardial oxygen supply as by coronary artery reperfusion, thrombolytic agents, heparin, hyaluronidase, mannitol, etc.; by augmenting anaerobic metabolism as rising glucose-insulin-potassium solutions, hypertonic glucose, etc.; by protecting against autolytic and heterolytic processes as adrenal steroids.

Hillis and Braunwald state that interventions reducing myocardial damage are effective if they are given between two hours and six hours after injury. The early use of some modes of intervention seem particularly desirable in light of their statements: “Recent observations suggest that considerable extensions of myocardial necrosis occur during apparently uneventful convalescence in a large fraction (i.e. 80% to 90%) of patients with acute myocardial infarction. In many patients, tissue damage occurs in a slow ‘stuttering’ manner—patients with acute infarctions who enter the medical care system as late as one day after the onset of the clinical event may benefit, etc.”

Our ability to limit the amount of damaged myocardium from ischemia can play a critical role in the affected patients’ future by avoiding pump failure of any degree.



ANSWER—Electrocardiogram of the Month

The standard ECG shows a regular tachycardia rate 145/minute with widened QRS complexes (0.12 seconds). The axis is to the right and the conduction is of right bundle branch block configuration. P-waves, though not seen on the standard 12 lead trace, are clearly evident on the esophageal lead and “march through” the QRS complexes at a rate of about 87 per minute. Thus of the choices given, ventricular tachycardia is the correct response. This particular patient converted to sinus rhythm with administration of a precordial thump.

MEDICINE IN THE



THE MONTH IN WASHINGTON

In a major national address President Carter urged voluntary restraint of labor and management to curb wage and price increases. Though rejecting mandatory controls for all other segments of the economy he urged passage of his hospital cost containment bill that would place a lid on hospital revenue increases.

The President said that daily hospital costs have jumped from \$15 in 1950 to more than \$288 today. "And physician fees have gone up 75 percent faster than other consumer prices."

In the immediate wake of the President's speech, Health, Education and Welfare Secretary Joseph Califano announced a number of belt-tightening measures, primarily the importance to the Administration of passing hospital revenue cap legislation.

The HEW Secretary said that he expects Congress will approve his plan to "cap" hospital revenues nine percent a year. He also said that Sens. Edward Kennedy (D.-Mass.) and Herman Talmadge (D.-Ga.), chairmen of the two Senate health subcommittees, have apparently reached agreement after a long impasse to bring the proposal to the Senate floor this year.

Subsequently, the President met with the chairman of a House health subcommittee, Representative Dan Rostenkowski (D.-Ill.), to stress the importance of limiting hospital fees.

Afterward, Mr. Rostenkowski told reporters that Congress has a better chance of approving the hospital cost containment proposal than anything else in President Carter's legislative package.

Congressional leaders, including Robert C. Byrd (D.-W. Va.), the Senate majority leader, indicated they would push hospital cost containment as a major bill this session.

The most important regulatory measure in Secretary Califano's belt-tightening list will limit Medicare payment for laboratory tests and medical equipment "to the lowest price that is widely available for the same quality in a particular

community, instead of paying on the basis of average charges or even higher ones."

The initial limit will apply to the 12 most common lab tests and to hospital beds and wheelchairs purchased for Medicare patients. The limits are to be extended to other tests and equipment later.

Other initiatives announced by Califano included:

- ★ New Medicare computer screening techniques to flag medically unnecessary health care services.

- ★ Specific goals for length of Medicare stays and use of tests to be determined by Professional Standards Review Organizations.

- ★ Acceleration of the program to secure second opinions in Medicare surgery cases.

- ★ Revised regulations to encourage hospitals to pool resources and share services.

- ★ An increase in the number of Medicare contracts put up for competitive bidding.

- ★ A regulation to require states to give 60 days notice of any proposed increase in Medicaid fees.

Califano also said he is writing the nation's governors to ask them to promote the substitution of generic drugs and to encourage enrollment in health maintenance organizations by state employees and Medicaid beneficiaries.

The HEW Secretary told reporters that "the medical profession itself has begun to recognize the need to control the increases in health care costs." He said physicians "are pilots in this airplane of medicine," and are increasingly ready to respond to cost-cutting efforts because of the realization that the alternative might be federal controls.

The National Commission on the Cost of Medical Care established by the American Medical Association issued recommendations on effective delivery of medical services that "deserve prompt action," Califano said.

The Voluntary Effort by the AMA, American Hospital Association, and Federation of American Hospitals, was criticized by Califano, who

said it "doesn't look to me as if there is much voluntary restraint..." However, he indicated that, if necessary, the Administration would support a bill in Congress by Rep. Rostenkowski that would afford the Voluntary Effort an opportunity to prove itself.

* * * *

Labor leaders and Senator Kennedy are again calling upon the White House with redrafted versions of their brand of national health insurance (NHI) in search of some sort of face-saving compromise. And the President, though his welcome mat is out, is reportedly doing his best to convince Labor to draw back a bit from its original insistence on a wide-sweeping plan and go along with an affordable approach that the Congress might buy.

Labor has told the President it is willing to abandon provisions of its Health Security Act under which the federal government would handle all of the financing for NHI, eliminating private health insurance. The current discussions center on how far Labor is willing to retreat.

President Carter needs Labor's support if the Administration's NHI program stands any chance at all of clearing Congress.

HEW is the so-called "lead-agency" in developing the Administration's NHI measure. HEW Secretary Califano and his health planning staffers are cool toward the Kennedy-Labor approach to NHI, and are viewed with some suspicion and hostility by the Labor chiefs.

However, the White House talks on the issue have gone smoothly. A big hitch has been HEW's opposition to "prospective budgeting," the financing of health care funds in advance, a cornerstone of Labor's Health Security Act aimed at controlling costs.

So far, the participants appear to be leaning toward an "opt out" plan under which the federal government would establish a NHI program, including Medicare and Medicaid, with the private sector allowed to construct private health insurance packages that meet federal standards.

Among those attending a recent White House session on NHI with President Carter were Kennedy; AFL-CIO President George Meany; United Auto Workers President Douglas Fraser; Secretary Califano; White House health aide Peter Bourne, M.D.; and Stuart Eizenstat, White House domestic programs aide.

Agreement was reported on the questions of universality, timing and the need for NHI.

Areas of disagreement focused on administration, overall cost and how to finance the plan.

Although the President and White House staff were pleased with the general tone of the discussion, they apparently felt Labor must shift its position even more since the Administration is vitally interested in submitting a legislative proposal that "represents a consensus and is saleable and affordable," said one participant.

The meeting concluded with an understanding that Kennedy and the Labor leaders would go back and rethink their positions and submit a revised proposal at a future meeting with the President before the Administration announces its NHI principles.

Areas for future discussion include:

★ Administration — participation of private insurance companies. Labor has shifted slightly from its previous position of "no role" for the private insurance sector to a limited underwriting role with rigid federal regulation. The Administration feels this shift is not enough and has suggested that Labor present some alternatives for further discussion.

★ Benefit package — there appears to be some progress in this area but the White House still believes Labor's package is too costly. Labor insists on "first dollar coverage," but the White House staff would like an alternative incorporating some consumer cost-sharing through co-insurance and/or deductibles.

★ Cost containment — Labor continues to favor a NHI budget with fixed "caps" administered at the federal level. The White House noted the political and administrative difficulties of such an approach and wants to discuss alternatives such as prospective reimbursement.

★ Financing — apparent agreement was reached that Social Security financing cannot be used for NHI. But no agreement has been reached on how best to finance a NHI plan.

The President will announce his NHI principles shortly. A "package of NHI specifications" (not in bill form) will be forwarded to the Congress by August so legislative hearings can be scheduled. Kennedy told reporters he plans hearings by his health subcommittee this summer.

* * * *

Vital decision-making authority on drug treat-

ment of patients would be transferred from the practicing physician to bureaucrats in Washington, under legislation before Congress, the AMA has warned.

Testifying on sweeping bills to change the nation's drug laws, the AMA told Sen. Kennedy's health subcommittee that the Administration bill "improperly crosses the line which should separate the regulation of drugs to assure their safety and efficacy and the regulation of the practice of medicine through the regulation of drugs."

William C. Felch, M.D., Chairman of AMA's Council on Legislation, testified that provisions in the measure "would allow medical decisions to be made by a government agency." Dr. Felch pointed to provisions allowing HEW to impose dispensing and distributing conditions on drug use; requirements for patient information labeling for nearly all drugs even against physician's recommendations; and authority for the government to decide such factors as relative efficacy in comparison with other treatment modes, intentional abuse potential and use for non-approved purposes.

"We believe that the patients of this country want their treatment decisions to be made by physicians of their choice — physicians who have the responsibility for the individual patient's care — and not by a federal bureaucracy," Dr. Felch testified.

Referring to the same provisions, William R. Barclay, M.D., AMA Group Vice President for scientific publications and Editor-In-Chief of the *AMA Journal*, told the Human Resources subcommittee "we are concerned that detailed patient labeling could encourage inappropriate self-medication by patients for themselves or for members of their families for conditions that should appropriately be under a physician's care."

Dr. Barclay also criticized the proposed monograph plan under which all drugs would be subject to both a public monograph and a private marketing license.

A drug innovator granted a monograph would be licensed to produce the drug. Subsequent manufacturers of this drug would no longer be required to perform independent clinical research and submit data establishing the safety and efficacy of the product.

Dr. Barclay said such a system has never been tested in this country and carries the potential

for abuse caused by the increased centralization of authority in the Food and Drug Administration.

Rather than convert the entire drug approval process to a monograph system, he said, "a better approach would be to make judicious amendments to existing law to eliminate duplicative research requirements and to conduct a demonstration or pilot test of a monograph system without the authority to impose inappropriate controls on drug use . . ."

* * * *

Waste, fraud and abuse accounts for more than \$4.5 billion in annual losses in the federal Medicare and Medicaid programs, according to the annual report of the Inspector General's Office at HEW.

The report listed \$2.3 billion to \$2.6 billion losses in Medicaid last year and \$2.2 billion in Medicare losses as part of an overall total of \$6.3 billion to \$7.3 billion in all HEW programs. Money spent unnecessarily in other programs includes \$669 million for Aid to Families with Dependent Children, \$494 million to \$1.2 billion in Income Security and other Social Security programs, \$88 million for Social Services, \$3.6 million from the Student Financial Aid Program, and \$97 million in Aid for Disadvantaged Children education.

The Inspector General's Office was formed last year in an effort to check waste and fraud in HEW programs.

* * * *

The AMA has raised a warning flag for legislation aimed at centralizing government evaluation of medical technology.

"Authority to centralize the evaluation of technology, using such factors as cost effectiveness . . . not only could lead to a stifling of research and other creative initiatives . . . but also could serve to regiment and limit physician options in providing treatment to patients on an individualized basis," said William Felch, M.D., Chairman of the AMA Council on Legislation.

Dr. Felch made the statement in testimony prepared for the House Commerce Health Subcommittee which is considering three bills dealing with medical technology research.

One would establish the National Institutes of Health Care Research as an independent research entity parallel to the National Institutes of Health (NIH). The Institute would conduct

research into health care delivery. The bill also would establish a new National Center for Evaluation of Medical Technology.

Another bill would establish, within NIH, a Center for the Evaluation of Medical Practice. This Center would conduct and support research on the evaluation of the effectiveness of medical practice, including evaluations of diagnostic and case finding techniques, therapeutic procedures, and the appropriate use of facilities, equipment and technology.

The final bill would extend and expand federal activities relating to health services research and the collection of health statistics. Dr. Felch said that "effective medical treatment can only be provided when the physician's professional judgment is not preempted by restrictive guidelines, regulations or legislation."

"The potential for an adversarial-type of review at the early stages of technology development could cut off many initiatives that would not appear at the outset to be promising when based upon a cost-benefit analysis — often the very types of initiatives that lead to serendipitous discoveries of lifesaving techniques," he testified. "Any action that could diminish the effectiveness of our biomedical research efforts should not be enacted."

The AMA official said the legislation implies that the assessment of medical technology is not adequate and that the dissemination of the results of research is not widespread. "Such is not the case and overlooks the fact that information about new research discoveries is widely disseminated through both the scientific and lay media and that any new technological development is subject to regular comment and criticism by both research authorities and experts in the social and other sciences," the physician said.

* * * *

A D. C. Federal District Judge has issued a preliminary injunction against the government implementing the Maximum Allowable Cost (MAC) program for chlorthalidone.

Judge Gerhard Gesell said "Maximum Allowable Cost limits had been set significantly lower than Offmann-LaRoche charges for Librium, its chlorthalidone, which commands most of the market."

Gesell said that "there is evidence that the standard was not intended to allow HEW to create a new market by imposing a MAC when

existing production and distribution lines do not already suffice to supply the drug in sufficient quantities at the MAX price . . ."

MAC is the generic drug program aimed at lowering drug charges to Medicaid patients by requiring purchase of cheaper brands. Gesell's ruling cast doubt on the attempt to extend MAC to the widely-used Librium.

* * * *

The government's most recent list of Medicare payments to all physicians has been made public. But digging out the information will be tough.

HEW contends the Freedom of Information laws compel the release of the Medicare data to the public. Last year, HEW issued names and payment only for physicians collecting \$100,000 or more from Medicare revenues. This year, all totals, however small, of every physician who treated a Medicare patient, whether on assignment or not, will be listed.

Following the debacle of last year when the list was replete with errors, HEW and the carriers have made strenuous efforts to get the figures right this time, sending physicians in advance the totals and asking them to verify them. The project is estimated to cost about \$1 million.

Some 274,000 physicians' names are on the list plus nursing homes, clinics, dentists, and chiropractors, adding up to more than 300,000 entries. Only two master lists will be available — one in the office of Secretary Califano, the other at Social Security's headquarters in Baltimore, MD. The master lists — in alphabetical order — compromise volumes a number of feet thick.

HEW Regional Offices will refer public inquiries to the appropriate carriers for Medicare which must make their lists public to anyone who asks, copies will cost 10 cents a page.

The press will have its work cut out in compiling news stories, since it will necessitate pouring over lengthy lists and in many cases checking with more than one carrier.

The AMA had urged HEW to abandon the publicity effort, declaring " — it would seem that an Administration with such a strong public commitment to cost-effective government would seriously question and find lacking the value of such an undertaking."

The AMA documented a 65 percent error rate in a sampling of last year's list. Secretary Califano later apologized. The General Accounting

Office made a study and reported the list was riddled with errors. But Secretary Califano persisted and the new list has now made its 1978 debut.

* * * *

RESEARCH PROJECT GRANTS ANNOUNCED

Two University of Arkansas College of Medicine physicians have been awarded research grants by the Southern Medical Association. Dr. Richard F. Jacobs of the Department of Pediatrics received a Research Project Grant for his project, "Counterimmunoelectrophoresis (CIE) as an Aid to Rapid Diagnosis of Group A Beta-hemolytic Streptococcal Pharyngitis", and Dr. James R. McCoy of the Department of Orthopedic Surgery received a grant for his project, "In Vivo Studies of Tobramycin in Bone Cement-Simplex Composites".

* * * *

CONSTITUTION AND BY-LAWS of the ARKANSAS MEDICAL SOCIETY (Revised April 1978) CONSTITUTION

ARTICLE I. Name of the Society

The name of this organization shall be the Arkansas Medical Society.

ARTICLE II. Purposes of the Society

The purposes of this Society shall be:

1. To federate and bring into one compact organization the entire medical profession of the State of Arkansas and to unit with similar societies of other states to form the American Medical Association;
2. To extend medical knowledge and advance medical science;
3. To elevate the standard of medical education, and to secure the enactment and enforcement of just medical laws;
4. To promote friendly intercourse among physicians;
5. To guard and foster the material interests of its members and to protect them against imposition;
6. To enlighten and direct public opinion in regard to the great problems of state medicine, so that the profession shall become more capable and honorable within itself, and more useful to the public in the prevention and cure of disease, and in prolonging and adding comfort to life; and

7. To maintain medical ethics and to secure compliance with the art of medical practice.

ARTICLE III. Component Societies

Component societies shall consist of those societies which hold charters from this Society as provided in the By-Laws.

ARTICLE IV. Composition of the Society

Section 1. Composition

This Society shall consist of members, delegates and guests.

Section 2. Members

The membership of this Society shall comprise all the members of its component societies.

Section 3. Delegates

Delegates shall be those members who are elected in accordance with the Constitution and By-Laws to represent their respective component societies in the House of Delegates of this Society.

Section 4. Guests

Any distinguished physician not a resident of this State, who is a member of his own state society, may become a guest during any annual session on invitation of the officers of this Society, and shall be accorded the privilege of participating in all of the scientific work for that session.

ARTICLE V. House of Delegates

The House of Delegates shall be the legislative body of the Society, and shall consist of (1) delegates elected by the component societies as provided in the By-Laws; (2) the councilors, and (3) ex-officio, the president, first vice president, president-elect, speaker, vice speaker, secretary, treasurer, and past president of the Society, provided, however, that the ex-officio members shall have the power of voting on all subjects except the election of officers.

ARTICLE VI. Council

Section 1. Duties

The Council shall be the executive body of the House of Delegates and between sessions of the House shall exercise the power conferred on the House of Delegates by the Constitution and By-Laws. It shall constitute the Finance Committee of the House of Delegates.

Section 2. Composition

The Council shall consist of the councilors, the president, first vice president, president-elect, secretary and treasurer. The speaker and vice speaker of the House of Delegates and the past president shall be members ex-officio without vote. There shall be two councilors from each

councilor district to serve staggered terms of two years each. All councilors shall have equal voting privileges. A majority of the voting members shall constitute a quorum.

Section 3. Executive Committee

The Chairman of the Council, the President, the President-elect and the Secretary shall constitute the Executive Committee of the Council. The Chairman of the Council shall serve as chairman of the Executive Committee. The Executive Committee shall have such powers and duties as provided in the By-Laws and as may be defined from time to time by resolution of the Council.

ARTICLE VII. Sections and District Societies

The House of Delegates may provide for a division of the scientific work of the Society into appropriate sections, and for the organization of such councilor district societies as will promote the best interests of the profession, such societies to be composed exclusively of members of component societies.

ARTICLE VIII. Sessions and Meetings

Section 1.

The Society shall hold an Annual Session, during which there shall be held daily general meetings, which shall be open to all registered members and guests.

Section 2.

The place and time for holding each Annual Session shall be decided by the Council.

ARTICLE IX. Officers

The officers of this Society shall be a president, president-elect, three vice presidents, Speaker of the House of Delegates, Vice Speaker of the House of Delegates, a secretary, a treasurer, and twenty councilors. Their qualifications and terms of office shall be as provided in the By-Laws.

ARTICLE X. Funds and Expenses

Section 1.

Funds shall be raised by an equal per capita assessment on each component society except as provided in the By-Laws. The amount of the assessment shall be fixed by the House of Delegates on four-fifths vote of the delegates present.

Section 2.

Funds may also be raised by voluntary contributions, from the Society's publications and in any other manner approved by the House of Delegates. Funds may be appropriated by the House of Delegates to defray the expenses of the Society for publications, and for such other purposes as will promote the welfare of the profession. All

resolutions appropriating funds must be referred to the Council before action is taken thereon.

ARTICLE XI. Referendum

Section 1.

A general meeting of the Society may, by a two-thirds vote of the members present, order a general referendum on any questions pending before the House of Delegates and when so ordered the House of Delegates shall submit such questions to the members of the Society, who may vote by mail or in person, if the members voting shall comprise a majority of all the members of the Society, a majority of such vote shall determine the question and be binding upon the House of Delegates.

Section 2.

The House of Delegates may, by a two-thirds vote of its own members, submit any questions before it to a general referendum, as provided in the preceding section, and the result shall be binding upon the House of Delegates.

ARTICLE XII. The Seal

The Society shall have a common seal, with power to break, change or renew the same at pleasure, by action of the House of Delegates.

ARTICLE XIII. Amendments

The House of Delegates may amend any article of this Constitution by a two-thirds vote of the delegates present at any annual session, provided that such amendment shall have been presented in open meeting at the previous annual session, and that it shall have been published twice during the year in a bulletin or Journal of this Society.

BY-LAWS

CHAPTER I. Membership

Section 1. Membership in Component Societies

(A) Membership in this Society shall be by membership in one of its component societies.

(B) The name of a physician on the properly certified roster of members of a component society which has paid its annual assessment shall be prima facie evidence of membership in this Society.

Section 2. Membership Classifications

(A) Active Membership

The Active Membership of this Society shall be comprised of all the active members of its component societies. Only such person is eligible for active membership in a component society as possesses the degree Doctor of Medicine and holds an unrevoked license to practice medicine and

surgery issued by the Board of Medical Examiners which consists of members recommended by this Society. The eligibility requirements set forth in the preceding sentences are not to apply, however, to members in good standing in any component society at the time of the adoption of the Section (Adopted, House of Delegates, 1961 Annual Session) nor to the members of the specially chartered "Student and Intern and Resident Societies."

(B) Life Membership

An active member who has continuously been a member of organized medicine and has either (1) attained age seventy or (2) practiced forty-five years shall be eligible for life membership and, upon the recommendation of his component society, shall be granted such status by the House of Delegates. Life members shall have the right to vote, hold office, and all other privileges of membership in this Society.

(C) Emeritus Membership

An active member who has continuously been a member of organized medicine for less than forty-five years and who has fully retired from the practice of medicine shall be eligible for Emeritus Membership. Such membership shall be granted by the House of Delegates upon the recommendation of the member's component society. Emeritus members shall not have the right to vote or hold office, but shall have all other privileges of membership in this Society.

(D) Affiliate Membership

An active member in good standing in his component society may be granted affiliate membership where one or more of the following conditions exist: physical or other disability of a character preventing the practice of medicine, a serious and prolonged illness, or financial reverses. Affiliate membership shall be on an annual basis only and a member must be recommended each year for such special status by his component society following a review and re-assessment of his particular situation. An affiliate member shall enjoy full membership privileges except that he shall not have the right to vote or hold office.

(E) Military Members

An active member in good standing in his component society who enters the service of the armed forces of the United States, not as a career officer, may be classified as a military member,

and carried on the roll of his component society as such.

A physician entering service of the armed forces of the United States, not as a career officer, upon completion of internship or residency training shall be eligible for military membership upon the request of a component society.

Military members shall enjoy full membership privileges except that they shall not have the right to vote or hold office.

(F) Associate Members

Physicians who are licensed to practice medicine and surgery in this State as well as an adjacent state and are engaged in the delivery of health services in both states may become associate members of this Society provided they are active members of the state medical association in the adjoining state. Associate members may vote as provided in this Constitution and By-Laws and may serve on all committees, but shall not hold office.

(G) Intern and Resident Members

Physicians licensed to practice medicine and surgery in this State who are engaged in filling intern or residency appointments in approved hospitals shall be eligible for membership in this Society. Such membership shall end with termination of this status. Such members shall enjoy the rights and privileges accorded active members except that they shall not hold office or chair committees.

(H) Student Members

Students enrolled in an approved medical school shall be eligible for student membership in this Society. Student members shall enjoy the rights and privileges accorded active members except that they shall not hold office or chair committees.

Section 3. Dues Exemption

(A) Life, Emeritus, Affiliate, Military, Intern and Resident and Student members shall be exempt from the payment of dues and assessments.

(B) Associate members shall pay one-half of all dues and assessments.

Section 4. Suspension or Expulsion

Any person who is under sentence of suspension or expulsion from a component society, or whose name has been dropped from its roll of members, shall not be entitled to any of the rights or benefits of this Society, nor shall he be permitted to

take part in any of its proceedings until he has been relieved of such disability.

Section 5. Meeting Registration

Each member, each member chosen as a delegate, and each guest in attendance at an annual session of the Society shall register in such manner as may be provided by the executive vice president, giving his name, address, and the component society of which he is a member. When his right to membership has been verified by reference to the roster of his society, he shall receive a badge which shall be evidence of his right to all the privileges of membership at that session. No member shall take part in any of the proceedings of an annual session until he has complied with the provisions of this section.

Section 6. Continuing Medical Education

Continued membership in the Society is dependent upon compliance with continuing medical education requirements as specified below:

(A) Classification of Members affected

All members of the Society will comply with this charge, except those retired from practice, those still engaged in their formal medical or specialty education, non-resident members and those in full-time administrative positions. Those members unable to fulfill requirements because of impaired health or extenuating circumstances may be exempt on a temporary basis by the Committee on Continuing Medical Education.

(B) Central Authority

The Committee on Continuing Medical Education will be charged with the determination of the requirements for maintaining membership in the Society. Their initial determination as well as any changes recommended must be submitted to the House of Delegates for approval. Alterations in the number of hours of continuing medical education required may be made at any regular meeting of the Society by the House of Delegates. The Council will serve as an arbitration committee if a decision of the Committee on Continuing Medical Education is questioned.

(C) Acceptable Alternate Plans

Alternate plans of acceptable requirements which would be considered equal to or exceeding the requirements established by the Committee on Continuing Medical Education and the House of Delegates would include:

- (1) Compliance with the requirements for the Physician's Recognition Award of the American Medical Association;

- (2) Compliance with the continuing education requirements of the American Academy of Family Physicians;
- (3) Documentation of recertification by any specialty board provided the physician limits his practice to the definition of the specialty;
- (4) The continuing medical education requirements of specialty societies other than the American Academy of Family Physicians, should such become established. Such programs would be subject to review by the Committee on Continuing Medical Education prior to their acceptance.

(D) Three-year continuum

Each member subject to continuing medical education requirements shall have three years to complete the required hours. The three-year continuum begins January 1 of the initial year.

CHAPTER II. Annual and Special Sessions of the Society

Section 1.

The Society shall hold an annual session at such place as has been fixed by the Council at the annual session two years in advance.

Section 2.

Special meetings of either the Society or of the House of Delegates shall be called by the President on petition of the Council, twenty delegates or fifty members.

CHAPTER III. General Meetings

Section 1.

All registered members may attend and participate in the proceedings and discussions of the general meetings and of the Section. The general meeting shall be presided over by the president or by one of the vice presidents, and before them shall be heard the address of the president and the orations, and such scientific papers and discussions as may be arranged for in the program.

Section 2.

The general meetings may recommend to the House of Delegates the appointment of committees or commissions for scientific investigations of special interest and importance to the profession and public.

CHAPTER IV. House of Delegates

Section 1.

The House of Delegates shall meet on the first day of the Annual Session. It may adjourn from time to time as may be necessary to complete its

business; provided that its hours shall not conflict with the general meetings.

Section 2.

The order of business shall be arranged as a separate section of the Annual Session program.

Section 3.

The House of Delegates shall establish its own rules of procedure.

Section 4. Items of Business

(A) All reports and resolutions received by the executive vice president sixty days prior to the annual meeting of the House of Delegates of this Society shall be printed in the Journal of the Arkansas Medical Society in the month preceding the meeting.

(B) All reports, resolutions, and other items of business received by the executive vice president twenty days prior to a meeting of the House of Delegates shall be included in the meeting agenda.

(C) Any item of business not submitted to the executive vice president twenty days prior to the meeting of the House of Delegates must have a two-thirds consent of attending delegates for introduction at such session.

Section 5. Reference Committees

(A) The Speaker of the House of Delegates shall appoint an appropriate number of reference committees from the membership of the House of Delegates. The chairman shall be appointed by the Speaker. The reference committees shall serve only during the convention for which they are appointed.

(B) All reports of committees, reports of officers, and resolutions submitted for consideration of the House of Delegates shall be referred to a reference committee, unless otherwise provided in these By-Laws, or unless otherwise ordered by a two-thirds vote of the House of Delegates.

(C) The reference committee shall hold an open hearing at which any member of the Society may speak on proposals before the committee.

(D) The reference committee shall recommend to the House of Delegates an appropriate course of action on each proposal referred to the committee.

Section 6. Representation of Component Societies

(A) (1) Each regular county society shall be entitled to send to the House of Delegates each year one delegate for every twenty-five Arkansas

Medical Society members, and one for each major fraction thereof, provided that its annual report and assessment are in the hands of the executive vice president by March 1st of each year. Each county society, however, regardless of its number of members, which has complied with this section, shall be entitled to one delegate.

(2) Two associate members of a component society shall count as one full membership in determining delegate representation of that component society.

(B) The component society composed of intern and resident members shall be entitled to one delegate to the House of Delegates.

(C) The component society composed of student members shall be entitled to one delegate to the House of Delegates.

Section 7.

A majority of the delegates registered shall constitute a quorum.

Section 8.

The House of Delegates shall, through its officers, Council and otherwise, give diligent attention to and foster the scientific work and spirit of the Society, and shall constantly study and strive to make each Annual Session a stepping stone to future ones of higher interest.

Section 9.

It shall consider and advise as to the material interest of the profession, and of the public in those important matters wherein it is dependent on the profession, and shall use its influence to secure and enforce all proper medical and public health legislation, and to diffuse popular information in relation thereto.

Section 10. It shall make careful inquiry into the condition of the profession of each county in the State, and shall have authority to adopt such methods as may be deemed most efficient for building up and increasing the interest in such county societies as already exist, and for organizing the profession in counties where societies do not exist. It shall especially and systematically endeavor to promote friendly intercourse among physicians of the same locality, and shall continue these efforts until every physician in every county of the State who is reputable and eligible has been brought under Medical Society influence.

Section 11.

It shall encourage postgraduate and research work, as well as home study, and shall endeavor

to have the results utilized and intelligently discussed in the county societies.

Section 12.

It shall elect representatives to the House of Delegates of the American Medical Association in accordance with the constitution and by-laws of that body.

Section 13.

It shall divide the State into councilor districts, specifying what counties each district shall include and, when the best interest of the Society and profession will be promoted thereby, organize in each a district medical society, and all members of component societies shall be members in such district society.

Section 14.

It shall have authority to appoint committees for special purposes from among members of the Society who are not members of the House of Delegates. Such committees shall report to the House of Delegates, and may be present and participate in the debate on their reports.

Section 15.

It shall approve all memorials and resolutions issued in the name of the Society before they shall become effective.

Section 16.

In case of vacancy in the office of delegate, the House of Delegates shall have the authority to seat any member of that county society in attendance at said meeting as delegate, with full right to perform all the duties of that office.

CHAPTER V. Election of Officers

Section 1. Nominating Committee

(A) Prior to adjournment of the first meeting of the House of Delegates at each Annual Session, the delegates from the component societies of each councilor district shall meet, the councilor not subject to re-election acting as chairman, and select one delegate from each district to form a committee on nominations. This committee shall consist of ten delegates, one from each councilor district. It shall meet and organize by selecting a chairman and secretary. It shall be the duty of this committee to consult with members of the Society and to hold one or more meetings at which time the best interest of the Society and of the profession of the State for the ensuing year shall be carefully considered. The committee shall report the result of its deliberations to the House of Delegates in the shape of a ticket con-

taining the names of two or more members for the office of president-elect and of one member for each of the other offices to be filled at that Annual Session. No two candidates for president-elect shall be named from the same county.

(B) The report of the Nominating Committee shall be the first order of business of the House of Delegates, after reading of the minutes, on the last day of the Annual Session.

Section 2.

Nothing in this Chapter shall be construed to prevent additional nominations being made by members of the House of Delegates.

Section 3.

Any person known to have solicited votes for or sought any office within the gift of this Society shall be ineligible for any office for two years.

Section 4.

No member shall be eligible to any office of this Society who is not in attendance at the meeting at which the election is held.

Section 5.

The election of officers shall be the second order of business of the House of Delegates on the last day of the Annual Session.

Section 6. Election by Ballot

All elections shall be by ballot, except where there is only one candidate, when election may be made by acclamation, and a majority of the votes cast shall be necessary to elect.

Section 7.

Each year, ten councilors shall be elected to serve a two-year term; all other terms of office are for one year. All officers shall serve until their successors are installed.

Section 8.

On the expiration of his term as president-elect, that person shall automatically succeed to the presidency and shall serve as president for the ensuing year.

Section 9. Vacancy in Presidency

In the event of the death or removal of the president, the president-elect shall succeed to the presidency to serve the remainder of that year and the ensuing year.

Section 10. Vacancy in Office of President-elect

In the event of the death or removal of the president-elect or his inability to serve, the House of Delegates shall meet within thirty days in a special session or otherwise, called by the president, to nominate and elect a president-elect,

provided that such death, removal or inability to serve shall occur not less than sixty days prior to the Annual Session, in which event the election shall be at the forthcoming Annual Session.

Section 11. Councilor Vacancy

In the event of the death or resignation of a district councilor, the Council shall appoint a member of the district to fill the unexpired term. The remaining councilor for the district shall confer with members in the district and make nominations for the vacancy to the Council.

Section 12. Vacancy in Office of Secretary or Treasurer

In the event of a vacancy in the office of the secretary or of the treasurer, the Council shall fill the vacancy until the next annual election.

CHAPTER VI. Duties of Officers

Section 1. President

The president shall preside at all meetings of the Society and shall appoint all committees not otherwise provided for. He shall deliver an annual address at such time as may be arranged, and shall perform such duties as custom and parliamentary usage may require. He shall be the real head of the profession of the State during his term of office, and, as far as practicable, shall visit by appointment the various sections of the State and assist the councilors in building up the county societies, and in making their work more practical and useful.

Section 2. President-elect

The president-elect shall be a member of the Council and the House of Delegates. It shall be his duty to assist the president in visiting the component and district societies, and to familiarize himself with, and prepare himself for, the performance of his duties when he shall have succeeded to the presidency of the Society.

Section 3. Vice Presidents

(A) The first vice president shall assist the president in the discharge of his duties. In the event of the president's temporary inability to serve, the first vice president shall serve in his stead.

(B) The vice presidents may be assigned by the president of the Society as ex-officio members of certain committees of the Society. The vice presidents' responsibilities will be to stimulate, to guide, to maintain liaison, and to otherwise assist the assigned committees and their respective chairmen in the performance of their activi-

ties. In no instance will the vice president usurp or supplant the committee chairman in his responsibilities. The vice president shall not have a vote in the affairs of the committees to which he is assigned under provisions of this section.

Section 4. Treasurer

The treasurer shall give bond in the sum as directed by the Council. He shall demand and receive all funds due the Society, together with bequests and donations. He shall pay money out of the treasury only on a written order of the executive vice president; he shall subject his accounts to such examinations as the House of Delegates may order, and he shall annually render an account of his doings and of the state of the funds in his hands.

Section 5. Secretary

The secretary, in case of vacancy in the office of executive vice president, shall assume the duties of that office pending the filling of the vacancy, and shall perform such other duties as are imposed by the Constitution and By-Laws. He shall be the scientific and professional advisor of the executive vice president, and shall assist the executive vice president concerning all matters without the jurisdiction of one not holding the degree of Doctor of Medicine. The secretary, as defined by the Constitution, shall be known as the Constitutional Secretary.

Section 6. The Speaker of the House

The speaker of the House of Delegates shall preside at the meetings of the House of Delegates and shall perform such duties as custom and parliamentary usage require.

Section 7. The Vice Speaker

The vice speaker shall officiate for the speaker in the latter's absence or at his request. In case of death, resignation, or removal of the speaker, the vice speaker shall officiate during the unexpired term.

Section 8. Councilors

Each councilor shall be organizer, peacemaker, and censor for his district. The two councilors in each district shall be designated "senior" and "junior" on the basis of length of tenure.

It is recommended that the councilors in each district call a meeting of the members in the district at least once each year for the purpose of organizing component societies where none exist, for inquiring into the condition of the profession, and for informing, improving, and increasing the

knowledge and zeal of the component societies and their members.

The councilors shall jointly prepare and submit to the Council prior to the Annual Session a written report of their work and of the condition of the profession within their district.

The necessary traveling expenses incurred by each councilor in the line of the duties herein imposed may be allowed on submission of a properly itemized statement.

Section 9. Chairman of the Council

The Chairman of the Council shall (1) preside at all meetings of the Council, (2) serve as chairman of the Executive Committee of the Council, and (3) appoint the Council committees.

CHAPTER VII. Council

Section 1. Power and Duties

(A) The Council shall be the executive body of the House of Delegates and between Annual Sessions exercise the power conferred on the House of Delegates by the Constitution and By-Laws. It shall consider all questions involving the rights and standing of members, whether in relation to other members, to the component societies, or to this Society. All questions of an ethical nature brought before the House of Delegates or the general meeting shall be referred to the Council without discussion. It shall hear and decide all questions of discipline affecting the conduct of members of component societies, on which an appeal is taken from the decision of an individual councilor. The Council shall elect a chairman following election of the Council members by the House of Delegates.

(B) The Council shall be responsible for the conduct of all the business affairs of the Society. It shall employ a chief executive officer who shall be known as the executive vice president.

(a) The executive vice president shall be responsible for implementation of policies of the Society and conducting affairs of the Society under direction of the Council and its Executive Committee, the House of Delegates and the president. The executive vice president shall be the directing manager of the Society's headquarters office and the Journal office, and shall supervise the work of all salaried employees in the Society's offices.

He shall discharge the administrative functions of the Society not within the duties of other officers or of committees to perform. He shall assist,

at their request, all officers and committees, and shall keep himself informed in regard to non-professional matters affecting the medical profession, for the purpose of keeping himself qualified to perform the services herein mentioned. The amount of his salary shall be fixed by the Council and he shall give bond as directed by the Council.

Section 2. Organizing Component Societies

The Council shall have authority to organize the physicians of two or more counties into societies, to be suitably designed so as to distinguish them from district societies, and these societies, when organized and chartered, shall be entitled to all rights and privileges provided for component societies until such counties shall be organized separately.

Section 3. Publications and Records

The Council shall provide for and superintend the publication and distribution of all proceedings, transactions and memories of the Society, and shall have authority to appoint an editor and such assistants as it deems necessary. All money received by the Council and its agents, resulting from the discharge of the duties assigned to them, must be paid to the treasurer of the Society. It shall annually audit the accounts of the treasurer and secretary and other agents of this Society and present a statement of the same in its annual report to the House of Delegates, which report shall also specify the character and cost of all the publications of the Society during the year, and the amount of all other property belonging to the Society under its control, with such suggestions as it may deem necessary.

Section 4. Meetings

The Council shall meet on the first day of the Annual Session and daily during the session and at such other times as necessary, subject to the call of the chairman or on petition of three councilors. It shall meet on the last day of the Annual Session of the Society to organize and outline the work for the ensuing year. Between Annual Sessions, the Council shall be expected to meet at least bi-monthly.

Section 5. Reporting

The Council shall, through its chairman, make an annual written report to the House of Delegates.

Section 6. Bonds

The Council shall have authority to accept or reject all bonds.

Section 7. Committees

(A) Executive Committee

The Chairman of the Council, the president, the president-elect and the secretary shall constitute the executive committee of the Council. The Chairman of the Council shall serve as chairman of the Executive Committee. The Executive Committee shall have the power and authority to act for the Council between meetings of that body; all actions of the Executive Committee shall require approval or ratification of the Council. The Executive Committee shall consider matters referred to it by officers of the Society and shall report its findings or recommendations to the Council.

(B) Council Committees

The chairman shall, with concurrence of the Council, appoint such committees as are necessary to carry out the duties assigned to the Council by the By-Laws and House of Delegates. At the discretion of the Council, the committees shall be of three types: (1) standing committees with unlimited membership tenure; (2) standing committees with staggered membership terms; and (3) ad hoc committees as may be warranted for specific purposes.

Section 8. Appointments to fill Vacancies

The Council shall, by appointment, fill any vacancy in office not otherwise provided for which may occur during the interval between annual meetings of the House of Delegates.

CHAPTER VIII. Committees

Section 1.

(A) The standing committees of this Society shall be as follows:

1. Committee on Cancer Control
2. Committee on Medical Legislation/Sub-Committee on National Legislation
3. Committee on Public Health/Sub-Committees on Rural Health, Maternal and Child Welfare, Tuberculosis, Heart Association, Liaison with Nursing Profession, etc.
4. Committee on Continuing Medical Education
5. Committee on Hospitals/Hospital Liaison and Arkansas Hospital Association
6. Committee on Public Relations/Speakers' Bureau, Liaison with Auxiliary, Liaison with Medical Assistants, Civilian Defense, etc.

7. Committee on Annual Session

8. Committee on Insurance

9. Committee on Medicine and Religion

10. Committee on Aging

11. Committee on Mental Health

(B) Additional committees shall be considered sub-committees of the appropriate standing committee and one member of the standing committee shall be a member of the sub-committee.

(C) Unless otherwise provided, these committees shall be appointed by the president for three-year staggered terms. The committee shall consist of not less than six members each, with each president appointing two members for a three-year period. Any vacancies through death, removal or resignation may be filled by the president at the time the vacancy occurs and for the unexpired term of the vacancy. The president and the secretary shall be ex-officio members of all committees.

Section 2. The Duties of the committees shall be as follows:

Committee on Cancer Control. Shall represent the Society in all activities concerned with cancer in the State. Shall directly supervise the activities of the Cancer Control Committee of the Arkansas Medical Society Auxiliary. Shall cooperate with all agencies within the State of Arkansas dedicated to the problem of cancer.

Committee on Medical Legislation. Shall represent the Society in all legislative practice. It shall keep in touch with professional and public opinion and maintain active relations with the Department of Public Affairs of the American Medical Association. It shall, at all times, endeavor to shape and guide legislation with a view to securing the best results for the whole people. It shall strive to organize professional influence so as to promote the general good of the community in local, state, and national affairs and elections. During sessions of the General Assembly, it shall keep itself informed as to the bills that are introduced, and shall inform the members of the Society through its Journal or special bulletins to the end that legislation inimical to the medical profession and the public shall be defeated, and legislation fostering the interest of the public health and medical practice shall be enacted into law.

Committee on Public Health. Shall represent the Society in those affairs having for their objective the improvement in public and personal

health, the prevention of epidemics, and the instruction of the people. It shall maintain close relations with the Board of Health, the State Health Officer, and the various health officials, assisting in the adoption of public health programs, the enforcement of sanitary laws, and to exercise leadership in the health problems of school children through a sub-committee on physical fitness and school health. As occasion demands, or when thought advisable, it shall supervise the preparation of articles of timely interest for publication in the newspapers or for broadcasting over the radio for the instruction of the public.

The Committee on Continuing Medical Education shall be responsible for consideration of all questions pertaining to medical education. It shall maintain close relations with the officials and faculty of the University of Arkansas School of Medicine, and Arkansas Academy of Family Physicians, and other groups interested in maintaining and improving medical education in our State institutions. It shall foster continuous efforts to increase excellence in the system of postgraduate education to serve the cause of medicine and to assure the public of continuing improvement in the postgraduate training of physicians in practice.

The Committee shall determine continuing medical education requirements for maintaining membership in the Society, as provided in these By-Laws, and shall establish methods of reporting in compliance with the continuing medical education requirements.

The Committee on Continuing Medical Education shall consist of seven members appointed by the president as follows: The dean or a representative of the University of Arkansas College of Medicine; one representative of the Arkansas Academy of Family Physicians from three nominations by that group; one family physician member of the Society selected by the president; one surgeon selected from three nominees from the Arkansas Chapter of the American College of Surgeons; one internist selected from three nominations from the Arkansas Chapter of the American College of Physicians and two other members of the Society, not in the specialty categories listed above, selected by the president. The committee chairman shall be named by the president.

Committee on Hospitals. The Committee on Hospitals shall have referred to it all questions

pertaining to hospitals and their operations; hospitalization of patients and hospital-physician relationships.

Committee on Public Relations. The Committee shall have referred to it all questions wherein the medical profession as represented by the Society is called upon for advice, for participation in private or public affairs and projects not coming within the duties outlined for the other committees. It shall be the publicity committee of the Society and shall have charge of all publicity issued in the name of the Society. The sub-committee on professional relations shall function under this committee.

Committee on Annual Session. The committee shall determine the character and scope of the scientific program for each Annual Session. It shall prepare a scientific program for each Annual Session. It shall solicit and collect material from institutions and individual physicians of the State that is of scientific interest. This it shall arrange and exhibit at each Annual Session. It should particularly strive to obtain material that will more fully illustrate the papers presented in the general meeting of the Society.

The Committee shall provide suitable accommodations for meetings of the Society and the House of Delegates, the scientific exhibits, the committees, and shall have general charge of all arrangements. Its chairman shall report an outline of the arrangements to the executive vice president for publication in the program and shall make additional announcements during the session as occasion may require.

Committee on Insurance. The Committee on Insurance shall deal with all matters pertaining to insurance, including liaison with Blue Cross-Blue Shield.

The Committee on Medicine and Religion shall work to create and enhance communication between physician and clergyman which will lead to the most effective care and treatment of the patient in which both are interested. It shall study the areas in which there is or may be continuing correlation involving medicine and religion.

The Committee on Aging shall study the problems of the aged and the aging. It shall provide leadership and initiative in meeting the health and medical care requirements of older persons. It shall foster the development of effective methods of achieving the best possible social and spir-

itual atmosphere for the elderly.

The Committee on Mental Health shall study the problems of the mentally ill. It shall foster development of programs to improve the care and treatment of mental patients and mental retardates.

CHAPTER IX. Component Societies

Section 1. Charters for Component Societies

(A) All component societies now in affiliation with this Society or those which may hereafter be organized in this State, which have adopted principles of organization not in conflict with this Constitution and By-Laws, shall, on application and submission of their Constitution and By-Laws, receive a charter from and become a component part of this Society.

(B) As rapidly as can be done after the adoption of this Constitution and By-Laws, a medical society shall be organized in every county in the State in which no component society exists, and charters shall be issued thereto.

(C) Charters shall be issued only on approval of the Council, and shall be signed by the president and secretary of this Society. Upon the recommendation of the Council, the House of Delegates may revoke the charter of any component society whose actions are in conflict with the letter or spirit of this constitution and By-Laws.

Section 2. Component organization

Only one component medical society shall be chartered in any county, except in the county where the University of Arkansas College of Medicine is located. In that county there may be, in addition to the regular county medical society, one component society for interns and residents and one component society for medical students. Where more than one component society exists in any other county, friendly overtures and concessions shall be made, with the aid of the councilor for the district if necessary, and all of the members brought into one organization. In case of failure to unite, an appeal may be made to the Council, which shall decide what action shall be taken.

Section 3. Membership Qualifications

Each component society shall be the judge of the qualifications of its own members, but as such societies are the only portals of this Society and to the American Medical Association, every reputable person who possesses the qualifications for membership required by Chapter I, Section 2

of these By-Laws, and who does not practice or claim to practice nor lend support to any exclusive system of medicine, shall be eligible to membership. No physician or surgeon who solicits patients or business for himself, or for an association or other organization of which he is a member, or by which he is employed, or in which he is interested, shall be eligible for membership in this Society, and no physician who works for, is employed by, or is interested in, any association or organization which solicits patients, members or physicians, shall be eligible for membership in this Society. Any member of the Society who shall hereafter violate any of the provisions hereof shall be expelled from the Society. Before a charter is issued to any county society, full and ample notice shall be given to every such physician in the county to become a member.

Section 4. Appeal to the Council

Any physician who may feel aggrieved by the action of the Society of his county in refusing him membership or in censoring, suspending, or expelling him, shall have the right to appeal to the Council, and its decision shall be final except that a county society shall at all times, be permitted to appeal or refer questions involving membership to the House of Delegates of the Arkansas Medical Society for final determination. That the Council may be aided in rendering just decisions, it is necessary that the By-Laws of each component society provide in detail the routine to be followed in preferring charges and trying any member accused of and tried for any kind of unprofessional conduct.

In hearing appeals the Council may admit oral or written evidence as in its judgment will best and most fairly present the facts; but in case of every appeal, both as a Board and as individual councilors in district and county work, efforts at conciliation and compromise shall precede all such hearings.

Section 5. Transfers

When a member in good standing in a component society moves to another county in this State, he shall be given a written certificate of these facts by the secretary of his society, without cost, for transmission to the secretary of the society in the county to which he moves. Pending his acceptance or rejection by the society in the county to which he moves, such member shall be considered to be in good standing in the county society from which he was certified and in the

State Society to the end of the period for which his dues have been paid.

Section 6. County Jurisdiction

A physician living near a county line may hold his membership in that county society most convenient for him to attend, on permission of the component society in whose jurisdiction he resides.

Section 7. Efforts to Increase Membership

Each component society shall have general direction of the affairs of the profession in its county, and its influence shall be constantly exerted for bettering the scientific, moral and material condition of every physician in the county; and systematic efforts shall be made by each member, and by the society as a whole, to increase the membership until it embraces every qualified physician in the county.

Section 8. Representation in House of Delegates

(A) Each regular county medical society shall be entitled to one delegate to the House of Delegates of this Society for each twenty-five members or major fraction thereof, provided that the society has complied with other provisions of these By-Laws, and provided that each component society shall be entitled to one delegate.

(B) The component society of interns and residents shall be entitled to one delegate to the House of Delegates.

(C) The component society of medical students shall be entitled to one delegate to the House of Delegates.

(D) At some meeting in advance of the Annual Session of this Society, each component society shall elect a delegate or delegates to represent it in the House of Delegates as provided in these By-Laws and the secretary of the county society shall send a list of such delegates to the executive vice president of this Society at least ten days before the Annual Session.

Section 9. Responsibilities of Secretary

The secretary of each component society shall keep a roster of its members, and of the non-affiliated licensed physicians of the county, in which shall be shown the full name, address, college and date of graduation, date of license to practice in this State and such other information as may be deemed necessary. In keeping such roster, the secretary shall note any changes in the personnel of the profession by death, or by removal to or from the county, and in making his

annual report he shall endeavor to account for every physician who has lived in the county during the year.

Section 10. Assessment

The secretary of each component society shall forward its assessment, together with its roster of officers and members, list of delegates, and list of non-affiliated physicians of the county, to the secretary of this Society on January 1, and not later than March 1 of each year.

Section 11. Failure to Pay Assessment

Any county society which fails to pay its assessment, or make the report required, on or before March 1, shall be held as suspended, and none of its members or delegates shall be permitted to participate in any of the business or proceedings of the Society or of the House of Delegates until such requirements have been met.

CHAPTER X. Miscellaneous

Section 1.

No address or paper before this Society, except those of the president and orators, shall occupy more than thirty minutes in its delivery and no member shall speak longer than five minutes nor more than once on any subject, except by unanimous consent.

Section 2.

All papers read before the Society or any of the sections shall become its property. Each paper shall be deposited with the secretary when read.

CHAPTER XI. Parliamentary Procedure

The deliberations of this Society shall be governed by parliamentary usage as contained in Sturgis Rules of Parliamentary Procedure, when not in conflict with this Constitution and By-Laws.

CHAPTER XII. Medical Ethics

The Principles of Medical Ethics promulgated by the American Medical Association shall govern the conduct of members in their relation to each other and to the public.

CHAPTER XIII. Amendments

The House of Delegates may amend any chapter of these By-Laws by a two-thirds vote of the delegates present at any Annual Session, provided that each amendment shall have been presented in open meeting at the previous Annual Session, and that it shall have been published twice during the year in a bulletin or Journal of this Society, or sent officially to each component society at least two months before the meeting at which final action is to be taken.

THINGS TO COME

FAMILY PHYSICIANS TO HOLD ASSEMBLY

The Arkansas Academy of Family Physicians will hold their thirty-first annual Scientific Assembly, August 17-19, 1978, at the Little Rock Convention Center and Camelot Inn. The University of Arkansas College of Medicine is celebrating its one-hundredth anniversary and the Academy will have activities in recognition of this. The session has been approved for eighteen prescribed hours of credit.

THURSDAY, AUGUST 17, 1978

12 Noon — Board of Directors' Luncheon and meeting, Camelot Inn

3:00-5:00 P.M.—Registration, Exhibit Area, Convention Center

FRIDAY, AUGUST 18, 1978

7:15-7:45 A.M.—Registration, Convention Center, Exhibit Area

8:00-9:15 A.M.—“Office Cryotherapeutics” Art of cryotherapy, gynecological cryotherapy, dermatological cryotherapy and cryoligation hemorrhoidectomy. R. Douglass Cassel, M.D., Camp Hill, Pennsylvania.

10:00 A.M.-Noon—“The Physiology of Exercise in Relation to Heart Disease”. Kenneth Cooper, M.D., Cooper Clinic, Dallas, Texas.

12:30-1:30 P.M.—Business luncheon—Convention Center, Exhibit Area

1:30-2:30 P.M.—Board buses for Dr. Cooper's lecture at the University of Arkansas Medical Center (last bus leaves at 2:00)

2:30-4:30 P.M.—“The Aerobics Program of Exercise”. Kenneth Cooper, M.D.

4:30-5:30 P.M.—Tour of new facilities, University of Arkansas Medical Center, Dr. Thomas Bruce, Dean, will be the host.

7:00 P.M.—Cocktail Party, Camelot Inn.

SATURDAY, AUGUST 19, 1978

7:00-8:00 A.M.—Razorback Breakfast. Guest speaker, Mr. Orville Henry

8:00-9:15 A.M.—“Nutrition and Fad Diets”. P. J. Palumbo, M.D., Mayo Clinic, Rochester, Minnesota

10:00 A.M.—Noon—“Current Concepts in the Diagnosis and Management of Thyroid Disease”. Sheldon S. Waldstein, M.D., Cook

County Graduate School of Medicine, Chicago, Illinois.

Noon-1:30 P.M.—Installation of Officers Luncheon. Dr. John C. Kelly, president, American Academy of Family Physicians, presiding officer.

2:00-4:00 P.M.—“Recent Advances in Diseases of the Pituitary, Adrenal, and Parathyroid Glands”. Sheldon S. Waldstein, M.D.

Registration fee is \$25.00 for members, \$35.00 for non-members, and \$5.00 for residents. For further information contact Mrs. Alta Jean Good, Executive Secretary, Arkansas Academy of Family Physicians, Post Office Box 5721, Little Rock, Arkansas 72215; or telephone (501) 227-4633.

TEACHING MEDICAL EDUCATORS SEMINAR

The Menninger Foundation is sponsoring a two-day seminar September 23-24, 1978, entitled “Teaching Medical Educators: Understanding Techniques and Methods for Effective Teaching”. Conducting the seminar will be Dr. Hilliard Jason, Director, Division of Faculty of the Association of American Medical Colleges. He will be assisted by Dr. Lee Shulman of Michigan.

For further information please contact: Edwin T. Janssen, M.D., Director, Division of Continuing Education, Post Office 829, Topeka, Kansas 66601; or telephone: AC 913-234-9566.



O B I T U A R Y

DR. WILLIAM W. CHILDS

Dr. William W. Childs of Little Rock died May 22, 1978. Dr. Childs was born in McNeil, Arkansas, on December 23, 1936 and he graduated from Dunbar High School in Little Rock in 1954. He received his Bachelor of Arts degree from Talladega College, Alabama, in 1958, and in 1962, he was graduated from the University of Arkansas College of Medicine. He completed his internship at Freedmens Hospital in Washington, D.C. He was in General Practice at 1304 B Wright Avenue in Little Rock.

Dr. Childs was a member of the Alpha Phi Alpha Fraternity and various civic organizations in Little Rock. He is survived by his mother, Mrs. Geneva Childs of Little Rock.

DR. LYNN JACK HARRELL

Dr. Lynn J. Harrell of Prescott died May 5, 1978. Dr. Harrell was born in Chicago, Illinois, July 25, 1915. He received his pre-medical education at the University of Texas in Austin, and was graduated from the University of Arkansas College of Medicine in 1938. Dr. Harrell practiced in Bauxite prior to locating in Prescott in 1945, where he was in General Practice. Dr. Harrell is survived by his wife, Mrs. Louise B. Harrell of Prescott, and one daughter Mrs. Lewis Fraser of Miami, Florida.

DR. WILLIAM S. ORR, JR.

Dr. William S. Orr, Jr., of Little Rock died May 31, 1978, at the age of fifty-nine. Dr. Orr was born in Benton and was a graduate of Henderson College and the University of Arkansas College of Medicine. He completed his internship and pathology residency training while serving in the United States Navy from 1941 until 1949.

Dr. Orr began practicing medicine in Little Rock and became a member of the Society in 1950. He had served on numerous committees and became a Councilor of the eighth district in 1970. Dr. Orr was also a past-president of the Pulaski County Medical Society, and a Fellow of the College of American Pathologists and the American Society of Clinical Pathologists. He had served as chairman of the American Association of Blood Banks, was past-chairman of the State Board of Health, and was the president-elect of the Arkansas Foundation for Medical Care and the Private Practitioners of Pathology

Foundation.

Dr. Orr was a past-president of the Little Rock Kiwanis Club and past-chairman of the Board of Stewards of St. Paul United Methodist Church.

He is survived by his wife, Mrs. Bernice Steigler Orr of Little Rock; a son, William S. Orr, III, Little Rock; and three daughters, Mrs. Bert Wilhite, Phoenix, Arizona, Mrs. Jack Brown, Dallas, Texas, and Mrs. Tom Kumpuris, Belleville, Michigan.

DR. FRIEDMAN SISCO

Dr. Friedman Sisco of Springdale died June 9, 1978, at the age of sixty-four. Dr. Sisco was a native of Springdale and had practiced in that community since 1945. He received his M.D. degree from the University of Arkansas College of Medicine in 1937, and after completing his internship at Santa Rosa Hospital in San Antonio, Texas, he entered the United States Army. Dr. Sisco did post-graduate work at the University of Chicago School of Medicine, Illinois. He was the former chief of staff at Washington Regional Medical Center at Fayetteville, and was a past-president of the Washington County Medical Society.

Dr. Sisco was a member of the Southwest Surgical Conference and the American Association of Abdominal Surgeons. He was active in various civic and social organizations and was also a director of the First State Bank of Springdale. Dr. Sisco is survived by two sons, Dr. Charles P. Sisco of Springdale, and Dr. Kenneth Sisco of Baltimore, Maryland.



P E R S O N A L A N D N E W S I T E M S

BAUXITE GAINS PHYSICIAN

Dr. Frank G. Edmiston of Greensboro, North Carolina, has assumed the duties as medical director of the Aluminum Company of America's Arkansas operation at Bauxite.

PHYSICIANS PARTICIPATE IN WORKSHOP

Dr. Jack A. Wood, Fayetteville, and Dr. Rex C. Ramsay, Little Rock, recently presided over

the Cancer Workshop for Nurses held in Little Rock. Dr. Fred O. Henker, III, of Little Rock spoke on "Altered Body Image".

DR. TRINH TO HAMPTON

Dr. Cuong Trinh recently located his General Practice in Hampton. Dr. Trinh completed his internship requirements recently at the Univer-

sity of Arkansas Medical Center. He will be joined later this summer by Dr. Dao Kieu who is completing his training at the Medical Center.

NEW SURGICAL CONGRESS OFFICERS

Dr. Gilbert S. Campbell of Little Rock has been elected president-elect of the Southwest Surgical Congress for 1978-1979. Dr. Bernard W. Thompson of Little Rock was appointed councillor for the State of Arkansas, and vice-councillors are Drs. Robert M. Bransford, Texarkana, Harold H. Mings, Fort Smith, J. Warren Murry, Fayetteville, James A. Simpson, Searcy, and Kent C. Westbrook, Little Rock. The Congress will hold its thirty-first annual meeting at Caesars Palace Hotel, Las Vegas, Nevada, April 23-26, 1979.

HELENA GAINS PHYSICIAN

Dr. Maurice J. Elovitz began surgical practice in Helena at 408 Porter Street. Dr. Elovitz previously practiced in Atlantic City, New Jersey, and was the director of the Atlantic City Hospital.

DR. PROSSER IS SPEAKER

Dr. Robert L. Prosser of the McGehee Family Clinic was the keynote speaker at the Arkansas Public Health Association meeting that was recently held in Hot Springs.

DR. SMITH IS HONORED

Dr. Floyd A. Smith, Jr., of Trumann was recently honored for his twenty-five years of medical and community service. The community set aside the day of May 20th as Dr. Smith Appreciation Day and a banquet and "roast" were held to climax the festivities.

PHYSICIANS LOCATE IN LEPANTO

Dr. Thomas C. Flannigan of Leachville recently joined the Lepanto Public Health Service Center. Dr. Stanley Phillips of Huntington, New York, will join the Center in September.

DR. KAHN BECOMES FELLOW

Dr. Mahmood A. Khan of Pine Bluff was recently made a Fellow of the American Society of Anesthesiologists.



PROCEEDINGS OF SOCIETIES

MINUTES

Council of the Arkansas Medical Society

The Council of the Arkansas Medical Society met at 12:00 noon on Sunday, June 11, 1978, in the Camelot Inn, Little Rock. Council members present were Burge, Wynne, Andrews, Shuffield, Pearson, Osborne, Crow, Stone, Irwin, Jameson, Warren, Harris, McCrary, Clark, Jouett, James, Henry, Williams, Kutait, Wilkins, Phillips, Kolb, Koenig, Ellis, Watson, Saltzman and Brown. Others present included Ken Lilly, Jim Lytle, John Kirkley, Forney Holt, Purcell Smith, Edgar

Easley, Thomas Bruce, Glenn Dalrymple, Jerry Mann, Nathan Poff, Mr. Gene Brooks, Mr. Max Blake, Mr. Paul Schaefer, Mr. Eugene Warren, Mr. Bob Cearley, Mr. Mike Mitchell, Mr. Paul Harris, Mrs. Walter Mizell, and staff members C. C. Long, Leah Richmond and Ken LaMastus.

The Council transacted business as follows:

1. Legal Counsel Eugene Warren reported that since sufficient signatures had not been obtained by June 1 for submission of the initiated petitions to the Secretary of State, the Society was responsible for publication in a general newspaper of the State the wording of the proposed Constitutional Amendment. The deadline for such publication was June 6 and the Society had not complied with this provision. Mr. Warren advised the Council that he had been unaware of this provision and acknowledged responsibility for the oversight. He stated that there was no way of qualifying the amendment for the general election ballot. Mr. Warren recommended

that an attempt be made to get a modified version of the New Hampshire statute enacted by the Arkansas Legislature with a severability clause. He further recommended that the Society issue a statement to the press announcing the termination of the petition drive and the Society's plan to work toward enactment of legislation. Upon motion of Wilkins and McCrary, the Council so voted. The Council, by motion of Wilkins and Wynne, approved wording of the news release as follows:

"Arkansas Medical Society Stops Petition Drive

During the course of our preparation to submit a proposed constitutional amendment to the people of Arkansas to authorize legislation to avert a malpractice litigation crisis, our opponents have steadfastly contended that we could obtain the relief we sought by legislative act and that we did not need to amend the Constitution. It now appears that our petition drive will not be successful. We will as of now cease work on the petitions for a constitutional amendment and abandon that effort. We call upon those who have urged us to go the legislative route to display their good faith and support us in preparing and presenting this legislation."

At the request of Mr. Warren, the Council appointed a committee composed of Morriss Henry, Rhys Williams, and Elvin Shuffield to work with legal counsel in drafting proposed legislation patterned after the New Hampshire legislation.

Upon motion of Shuffield, the Council voted that a resolution be drafted thanking Mrs. Kolb for all her work as chairman of the Healing Arts Committee.

2. The Council noted with regret the death of one of its former members, Dr. William S. Orr, Jr., of Little Rock, and adopted a memorial resolution.
3. Glenn Dalrymple, one of the Society's representatives to the Arkansas Committee on Voluntary Cost Containment Committee, reported on the initial action of the committee. He recommended to the Council that a letter be forwarded by the Society president to all

hospital chiefs of staff in the State indicating a sense of sincere desire to support the voluntary cost containment effort. Upon motion of Henry, the Council authorized President Wynne to issue the letter.

4. Upon the recommendation of the councilors from the ninth district, the Council appointed Dr. John W. Vinzant of Fayetteville to fill the unexpired term of Dr. Coy Kaylor on the Arkansas State Arbitration Commission.
5. Dr. Robert McCrary of Hot Springs discussed a question which had been presented to him by the Garland County Medical Society at the request of the City Council of Hot Springs. A local clinic has applied for financing of an expansion under Act 142. Upon the motion of Wilkins, the Council approved a statement expressing the opinion that it considers Act 142 to be legal and valid and transactions thereunder by physicians to be entirely ethical.
6. George Warren, new councilor from the fifth district, discussed distribution of materials at Council meetings. Upon motion of Warren, the Council voted to afford any active member of the Society copies of any material distributed to members of the Council. At the recommendation of Kutait, it was generally agreed that Council members would receive copies before copies were made available to others present.
7. The Council discussed a letter from the Arkansas Society of Internal Medicine advising that the group would no longer hold its meetings in conjunction with the Arkansas Medical Society and would meet in conjunction with the regional meetings of the American College of Physicians. The letter stated that "the goals of the Society of Internal Medicine do not necessarily coincide with the goals of the Arkansas Medical Society." Dr. Wilkins advised the Council that there was no dispute involved, merely that the scientific program at the Medical Society meeting was not the primary function of the Arkansas Society of Internal Medicine. President-elect Andrews expressed concern about the fragmentation indicated by various specialty groups scheduling meetings separate from the Society convention and the need

for some effort to get members of the specialty groups to actively participate in State Medical affairs. Upon motion of Wilkins, the Council voted to thank the Arkansas Society of Internal Medicine for its past assistance to the State Society and ask that individual members of the Society of Internal Medicine continue to attend the Medical Society meeting and participate in its activities.

8. Mr. Warren reported to the Council on his study of regulations and rulings regarding payments for physician services under Medicare. He advised the Council that he was of the opinion it was not feasible to consider legal action at this time concerning the method of determining payment under Medicare.
9. The Council discussed implementation by the Department of Health Education and Welfare of a program to encourage the public to seek a second consultation in cases where physicians recommend surgery. Upon motion of Shuffield, the Council voted to receive the communication for information.
10. The Council considered a request from the Prudential Insurance Company that the Society consider establishment of a panel for a second opinion surgical program for employees of the Wal-Mart stores in Northwest Arkansas. Upon the motion of McCrary, the Council voted to advise the insurance company that the Society has not established any type of second opinion consultant program and that it does not feel such a program is indicated at this time inasmuch as our peer review programs have not found any cases of unnecessary surgery.
11. Dr. George Warren recommended that the Council consider making available insurance protection for accidents which may be incurred by members of the Council enroute to meetings. It was generally agreed that study would be given the proposal.

The Council meeting adjourned at 2:10 P.M.

APPROVED: John P. Burge, M.D.,
Chairman

RESOLUTION: MRS. MARGARET KOLB

WHEREAS, Mrs. Margaret Kolb has served as Chairman of the Healing Arts Committee and

lent her expertise and untiring effort to the malpractice petition campaign, and

WHEREAS, her service to the medical profession through her work with the Arkansas Medical Society Auxiliary and many different committees and organizations is immeasurable, and

WHEREAS, these efforts have been to improve medical care and thus serve her fellowman,

BE IT THEREFORE RESOLVED that the Council of the Arkansas Medical Society does hereby express its gratitude and respect to Mrs. Margaret Kolb for her past and continuing efforts in support of medicine.

June 11, 1978

Council of the Arkansas Medical Society

Resolution:

DR. WILLIAM S. ORR, JR.

WHEREAS, the members of the Council of the Arkansas Medical Society note with sincere sorrow the recent death of their colleague, Dr. William S. Orr, Jr., and

WHEREAS, Dr. Orr always applied himself with diligence and devotion to the purposes for which our organization was founded, and

WHEREAS, he served the profession as president of his county medical society, as district councilor of the State Society, as chairman of the State Board of Health, as chairman of the Arkansas Medical Political Action Committee, and as president of the Arkansas Foundation for Medical Care, and

WHEREAS, Dr. Orr served his community as president of the Little Rock Kiwanis Club and as chairman of the Board of Stewards of St. Paul United Methodist Church, and

WHEREAS, his achievements, both as a physician and private citizen, will long be remembered and his memory cherished by all who knew him, and

WHEREAS, it is with recognition of his great services and a sense of the immeasurable void created by his passing that the Council expresses in this way the affection and esteem held for him,

NOW, THEREFORE, BE IT RESOLVED, that we pause here in this meeting with respect to his memory.

June 11, 1978

Council of the Arkansas Medical Society



NEW MEMBERS

DR. JOE A. ABRAMS

The Faulkner County Medical Society has accepted Dr. Joe A. Abrams into its membership. Dr. Abrams is a native of Hummoke, Arkansas. He received his B.S. degree from Arkansas State Teachers College, Conway, in 1963; and his M. S. degree from North Texas State University, Denton, Texas. Prior to entering medical school, Dr. Abrams taught at North Texas State University, El Dorado High School, and McClellan High School. In 1974, he was graduated from the University of Arkansas College of Medicine and interned at Baptist Medical Center in Little Rock. Dr. Abrams completed his Family Practice residency training at the University of Arkansas Medical Center in 1977. Dr. Abrams is board certified by the American Board of Family Physicians and his office is at Eight Laurel Plaza in Conway.

DR. DAVID R. CRITTENDEN

The Sebastian County Medical Society has added Dr. David R. Crittenden to its membership. Dr. Crittenden was born in Little Rock; received his B.A. degree from Hendrix College at Conway in 1967; and was graduated from the University of Arkansas College of Medicine in 1971. He served his internship at the University of Arkansas Medical Center and completed his Internal Medicine and Nephrology residencies at the University of Arkansas Medical Center. Dr. Crittenden also had a Fellowship at the University of North Carolina. He was in practice in Little Rock for two years prior to locating in Fort Smith. He is now associated with Dr. Michael D. Coleman in the Department of Nephrology at Holt-Krock Clinic, 1500 Dodson. Dr. Crittenden is certified by the American Board of Internal Medicine.

DR. R. LOWELL HARDCASTLE

Dr. R. Lowell Hardcastle has been accepted

into the membership of the Greene-Clay County Medical Society. Dr. Hardcastle is a native of California. He received his B.A. degree from Pepperdine University, Malibu, California. In 1969, Dr. Hardcastle was graduated from the University of California School of Medicine. He served in the United States Army from 1969 until 1977. His internship and residency training in Ophthalmology was completed at Fort Sam Houston, San Antonio, Texas. Dr. Hardcastle served as Assistant Chief of Ophthalmology from 1973 until 1976, and as Chief of Ear, Eye, Nose and Throat from 1976 until 1977. He is associated with the Paragould Medical Center at One Medical Drive. Dr. Hardcastle is certified by the American Board of Ophthalmology.

DR. ALVIN SCOTT HARDIN

A new member of the Union County Medical Society is Dr. Alvin S. Hardin. Dr. Hardin is a native of Camden. He received his B.S. Degree from Ouachita University in 1967, and in 1971, he was graduated from the University of Arkansas College of Medicine. His internship was completed at Emory University Hospital, Atlanta, Georgia. From 1972 until 1975, Dr. Hardin served in the United States Air Force at Randolph Air Force Base, Texas. After completing his service in the Air Force, he entered Internal Medicine and Cardiology residency training at the University of Arkansas Medical Center, which he completed in 1978. Dr. Hardin is board certified by the American Board of Internal Medicine and specializes in Internal Medicine and Cardiology at 714 West Faulkner in El Dorado.

DR. MICHAEL CONLEY HENDREN

Dr. Michael C. Hendren has been added to the membership of the Pulaski County Medical Society. Dr. Hendren was born in San Francisco, California, and received his B.S. degree from the University of Arkansas in 1971. In 1976, he was graduated from the University of Arkansas College of Medicine. He interned at the University Hospital in Little Rock and received Orthopaedic residency training in 1977 at University Hospital. Dr. Hendren is in General Practice at 330 Doctors Park Building in Little Rock.

DR. PAUL Y. HOLOYE

The Pulaski County Medical Society has added Dr. Paul Y. Holoye to its membership roll. Dr. Holoye was born in Liege, Belgium, and attended Free University of Brussels from 1958 until 1961.

In 1965, he was graduated from the Medical School of Free University of Brussels, Belgium. Dr. Holoye interned at Washington Hospital Center, Washington, D.C., and in 1966, he entered a three year Internal Medicine residency at the Center. He completed two more years of Internal Medicine residency training at Bronx Veterans Hospital, Mount Sinai, New York, in 1971, and he had an Oncology Fellowship at M.D. Anderson Hospital, Houston, Texas, from 1971 until 1972.

Dr. Holoye is certified by the American Board of Internal Medicine in Internal Medicine and Oncology. He was an associate professor of medicine at the University of Texas, in Houston. He is an Oncologist associated with Dr. Jack J. Sternberg at 500 South University, Suite 725, Little Rock.

DR. BENJAMIN C. HYATT

A new member of the Conway County Medical Society is Dr. Benjamin C. Hyatt, a native of Hope. Dr. Hyatt served in the United States Army from 1945 until 1947. He received his pre-medical education at Northwestern University, Evanston, Illinois, graduating in 1953 with a B.S. degree. He also attended Arkansas College at Conway. In 1958, he was graduated from the University of Arkansas College of Medicine and interned at St. Vincent Infirmary in Little Rock. Dr. Hyatt practiced at Beaumont Municipal Hospital, Beaumont, Texas, for a year. He relocated his practice to Perryville, where he has been in General Practice for the past seventeen years. Dr. Hyatt is associated with the Community Health Clinic.

DR. CHARLES L. KEAGY

Dr. C. L. Keagy of Eureka Springs has been accepted into the membership of the Washington County Medical Society. Dr. Keagy was born in Canton, Ohio, and received his pre-medical education at Ohio State University, graduating with a B.A. degree in 1941. He was graduated from State University College of Medicine in 1944, and completed his internship training at Miami Valley General Hospital, Dayton, Ohio. He was in service from 1945 until 1953. After receiving his discharge, Dr. Keagy entered General Practice at Delano, California, where he remained until 1977. In October 1977, he relocated his Family Practice to 41 Kingshighway, Eureka Springs.

DR. WILLIAM L. MONEY, JR.

The Desha County Medical Society has accepted Dr. William L. Money, Jr., into its membership. Dr. Money was born in New York City and received his pre-medical education at the University of Arkansas, graduating in 1972 with a Bachelor of Arts degree. In 1976, Dr. Money was graduated from the University of Arkansas College of Medicine and interned at St. Vincent Infirmary in Little Rock. Dr. Money is in General Practice at 207 South Elm in Dumas where he is associated with the Robinson Clinic.

DR. SAM A. MCGUIRE, III

Dr. Sam A. McGuire, III, has been accepted into the membership of the Crittenden County Medical Society. Dr. McGuire was born in Memphis, Tennessee, and received his B.S. degree from Christian Brothers College, Memphis, Tennessee, in 1965. He attended the University of South Carolina until 1967, and was associated with the United States Public Health Service in Fontana, California, for two years. In 1973, Dr. McGuire was graduated from the University of Arkansas College of Medicine. He continued at the University Medical Center for his internship and residency training in Family practice. Dr. McGuire specializes in Family Practice at 101 Church Street in Parkin.

DR. LAURENCE MERCER MCKINLEY

A new member of the Pulaski County Medical Society is Dr. Laurence M. McKinley. Dr. McKinley was born in Dublin, Ireland. He received his B.A. and M.A. degrees from Trinity College, University of Dublin, Ireland, and his medical degree from the same University in 1972. Dr. McKinley completed his internship training at Alton Ochsner Medical Foundation in New Orleans in 1973, and continued there for three years Orthopaedic residency training. He received a year's training in scoliosis spine surgery at Kosair Crippled Children's Hospital, Louisville, Kentucky, and six months' spine trauma rehabilitation at Ranchito Los Amigos Hospital, Downey, California, in 1977.

Dr. McKinley was an instructor of Orthopaedics at the University of Louisville, Kentucky, from 1976 until 1977. He is an assistant professor of orthopaedics at the University of Arkansas College of Medicine. Dr. McKinley specializes in Scoliosis Spinal Surgery and general Orthopaedics

at the University of Arkansas Medical Center, 4301 West Markham, Little Rock.

DR. FOUAD MOHAMMED RABIE

The Union County Medical Society has added Dr. Fouad M. Rabie to its membership roll. Dr. Rabie is a native of Cairo, Egypt. He completed his pre-medical education at the University of Cairo, Faculty of Science in 1951 and was graduated from Ibrahim Pasha University Faculty of Medicine, Cairo, Egypt, in 1957. Dr. Rabie interned at St. Clare's Hospital in New York City, and in 1972, he completed two year of Obstetrics-Gynecology residency training at the Good Samaritan Hospital in Dayton, Ohio. In 1973, he completed a year Obstetrics-Gynecology residency at Bethesda Navy Hospital, Bethesda, Maryland.

Dr. Rabie practiced in Egypt for eight years before coming to the United States. He entered practice in Miles City, Montana, prior to relocating in Arkansas. He is specializing in Obstetrics-Gynecology at 445 West Oak, El Dorado.

DR. DAVID L. ROGERS

Dr. David L. Rogers has been accepted into the membership of the Washington County Medical Society. Dr. Rogers was born in Lincoln, Nebraska, and received his pre-medical education at Baylor University in Waco, Texas, and in 1971, he received his B.A. degree from Hendrix College in Conway. In 1976, he was graduated from the University of Arkansas College of Medicine. Dr. Rogers is in Family Practice Residency training with the Area Health Education Center of Northwest Arkansas, located at 241 West Spring in Fayetteville.

DR. THOMAS W. TRUSSELL

The Pulaski County Medical Society has accepted Dr. Thomas W. Trussell into its membership. Dr. Trussell was born in Camden and received his pre-medical education at Hendrix College. He was graduated from the University of Arkansas College of Medicine in 1961. Dr. Trussell received his internship and residency training at the University of Arkansas, completing his General Practice residency in 1963. He practiced in Olney, Texas, from 1965 until 1978, when he returned to Arkansas to begin General Practice at 5326 West Markham in Little Rock.

DR. STEPHEN J. WETMORE

Dr. Stephen J. Wetmore has been accepted into

the membership of the Pulaski County Medical Society. Dr. Wetmore is a native of London, England. He received his B.A. degree from the University of Michigan at Ann Arbor in 1967, and in 1971, he was graduated from the University of Michigan Medical School, Ann Arbor. He completed his internship at Harbor General Hospital, Torrance, California. Dr. Wetmore completed his General Surgery residency training in 1973 at Kaiser-Permanente Hospital in Los Angeles, California, and from 1973 until 1977, he was in Otolaryngology residency training at the University of Iowa in Iowa City. Dr. Wetmore is certified by the American Board of Otolaryngology and he is associated with the Medical College Physicians Group at the University of Arkansas, specializing in Otolaryngology.

DR. WILLIAM JEFF WOODDELL

Dr. W. Jeff Wooddell has been added to the membership of the Sebastian County Medical Society. Dr. Wooddell is a native of Charleston, West Virginia. He received his B.A. degree from West Virginia University, Morgantown, in 1962; and in 1966, he was graduated from the Health Sciences Division of Virginia Commonwealth University at Richmond. Dr. Wooddell completed his internship at the Medical College in Richmond. From 1967 until 1977, he served in the United States Air Force. During this time of service, Dr. Wooddell completed two years of Internal Medicine residency training at the University of Colorado Medical Center in Denver in 1971, and he also had a Gastroenterology Fellowship at the Medical Center in 1973.

Dr. Wooddell was stationed at the Little Rock Air Force Base and the Air Force Academy in Denver, Colorado. He served as Chief of Gastroenterology at the Academy. He is certified by the American Board of Internal Medicine and is associated with the Cooper Clinic, Waldron Road at Ellsworth in Fort Smith. Dr. Wooddell specializes in Internal Medicine and Gastroenterology.

DR. KEVIN R. CARLSON

Dr. Kevin R. Carlson has been accepted into the membership of the Pulaski County Medical Society as a resident member. He is a native of Houston, Texas, and received his B.S. degree in Zoology from Texas A and M College, College City, Texas. In 1976, Dr. Carlson was graduated

NEW MEMBERS

from the University of Texas Medical Branch at Galveston. He is a Family Practice resident at the University of Arkansas Medical Center.

DR. CAROL W. CHAPPELL

The Pulaski County Medical Society has accepted Dr. Carol W. Chappell as a resident member. Dr. Chappell was born in Akron, Ohio, and received her B.A. degree from Wittenberg University in Springfield, Ohio. She was graduated from the University of Arkansas College of Medicine in 1974. Dr. Chappell is an Ophthalmology

resident at the University of Arkansas Medical Center.

DR. JOHN MELVIN TUNE

Dr. John Melvin Tune is a new resident member of the Pulaski County Medical Society. Dr. Tune was born in El Paso, Texas, and received his B.S. degree from the University of Texas at El Paso. In 1976, he was graduated from the University of Texas Medical Branch at Galveston. Dr. Tune is an Internal Medicine resident at the University of Arkansas Medical Center.



August, 1978

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The Use of Low Dose Intramuscular Insulin in Diabetic Ketoacidosis

Steven C. Wilson, M.D.,* and Philip E. Duncan, M.D.**

Since the first injection by Banting and Best, in 1921, insulin has been the backbone of treatment in diabetes, particularly ketoacidosis.⁷ Long term treatment is dependent also on dietary management and self examination of urine, but acute management of ketoacidosis depends on an organized team approach in order to decrease morbidity and mortality.

Over the years, the role of insulin has been discussed from all viewpoints, and the most widespread opinion is that large doses are beneficial and desirable in the treatment of the medical emergency ketoacidosis. In 1947, Root studied the use of large and small doses of insulin and found that there was no advantage to the low dose method.¹ However, factors such as intravenous fluids, the treatment of the acidosis, and monitoring techniques such as rapid evaluation of blood sugar level had more effect on mortality and morbidity than the dosage and route of administration of insulin. It appears that some authors feel that any insulin regimen will be adequate as long as dehydration and acidosis are reversed. It is apparent to this author, however, that insulin is not a harmless agent, and should not be used without some knowledge of the mechanisms involved. Recently, low dose intramuscular insulin has become popular and has been used with great effectiveness and safety. The following are examples of a typical case and an atypical case demonstrating the use of this regimen.

CASE 1: A 21-year-old male admitted in severe ketoacidosis with a history of insulin dependent diabetes, on 60u NPH daily. He had a history of abdominal pain and past history of ulcer disease. On admission the patient was obtunded and was found to

have a blood glucose of 504, potassium 4.3 and pH 6.84. He was given intravenous fluids and started on a low dose regimen. He received two amps (88meq) of sodium bicarbonate initially followed by one amp (44meq) an hour later. Seven hours later the glucose was 253, potassium was 3.5, pH was 7.23. A glucose-containing solution was given with potassium added, and the patient was started on sliding scale. Total amount of fluids over the seven hours to relieve acidosis was 2200cc; total insulin for the seven hours was 55 units. The patient was treated for underlying peptic ulcer disease and returned to his previous regimen, and discharged following an uneventful hospital stay.

CASE 2: A 70-year-old woman with previous known diabetes admitted in ketoacidosis and temperature of 101. Glucose was 1056, potassium 6.8, pH 6.88. This patient was started on low dose regimen after some delay, and given two amps of sodium bicarbonate and intravenous fluids. 12 hours following admission the glucose was 256, potassium was 3.1, pH was 7.23. The patient was given intravenous glucose and potassium solution, and begun on sliding scale. Total insulin in 12 hours was 110 units, fluids about 3,000 cc. This patient did well and was apparently controlled, but expired eight days later because of pulmonary embolus.

Goals of therapy of any regimen are rehydration, correction of electrolyte imbalance, and reversal of metabolism.¹ The phase of rehydration may require as much as 1 to 1½ liters per hour, and should be replaced with either 0.9% sodium chloride or 0.45% sodium chloride solution. Potassium should not be given until therapy is

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under way. Potassium will initially be normal or elevated with intracellular depletion due to ionic shift. The potassium will drop with the addition of insulin and bicarbonate, as it shifts intracellularly, and replacement will probably be required as the total body potassium is often low.

The use of sodium bicarbonate has recently been modified. Some have gone so far as to state that sodium bicarbonate has no place in the treatment of ketoacidosis. Most agree that it is of great value in life-threatening acidosis, but correction of dehydration and glycosemia may be more important in reversing acidosis. One meq/kg is usually the accepted dosage.

In the vast majority of patients with ketoacidosis, there is a precipitating event, whether it be diet, self-adjusted medications, or infection. The treatment of ketoacidosis must include the treatment of underlying disease and precipitating factors.

Intravenous administration of insulin carries a very short half life, about five minutes. Therefore, it must be repeated frequently. This results in widely fluctuating levels, but no "depots" occur. Another problem is that insulin adsorbs onto IV containers and tubing. This can be minimized by using albumin, but this carries some risk, albeit small, of its own.^{1,12}

Subcutaneous insulin has half life of about four hours. It is absorbed slowly and erratically, and depots accumulate that may release insulin later resulting in a high incidence of hypoglycemia late in the course of treatment.^{1,12}

With intramuscular insulin, the half life is about two hours with a rapid onset of action,

constant serum insulin levels, and a predictable rate of fall of blood glucose and serum ketones. No depots occur with intramuscular insulin administration and hypoglycemia is not seen.^{1,12}

Several prospective and comparative studies have been carried out with interesting results. All agree that higher rates of insulin administration do not produce faster glucose decrease or better clinical results. This is presumably due to the fact that it takes a small amount of insulin to saturate the receptors that are responsible for mediating glucose transport and inhibition of lipolysis. Once these receptors are saturated, glucose transport occurs at a fixed, maximum rate regardless of the amount of excess insulin.¹⁰ This is supported by the following figure.¹

In addition to this, high doses of insulin increase hepatic and renal clearance so that insulin is cleared rapidly before it has any metabolic effect.⁸

The length of time in clinical trials and comparative studies indicates that the average time in acidosis with high dose management is about four and one-half hours. The average for low dose is variable from five to six and one-half hours. In all studies the "p" value for this comparison in the number of patients studied indicates that this is not a significant difference.^{8,9,11}

The average dose of insulin given in the first seven hours (the time to relieve acidosis) is about 56 units for low dose, compared to an average of 233 units for high dose.

The incidence of hypoglycemia is at a minimum with low dose therapy. One study including 17 consecutive patients managed on low dose

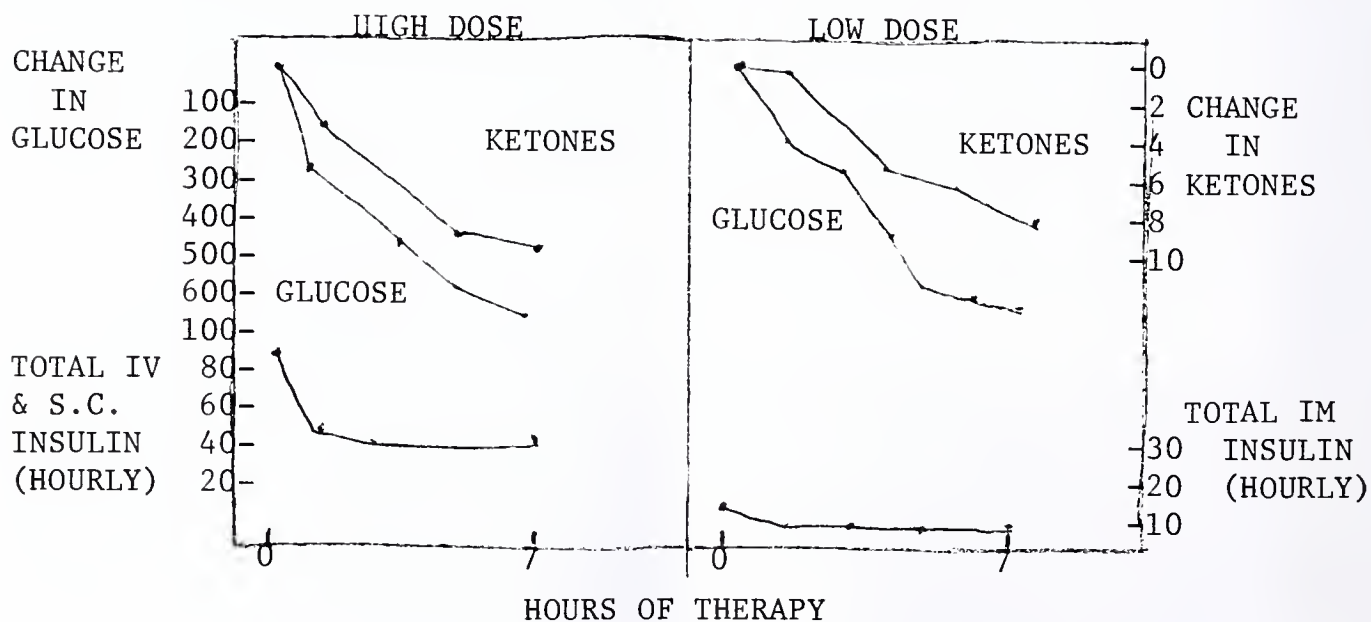


Figure 1

reported no incidents of hypoglycemia.¹ Another comparative study reported 25% cases of hypoglycemia with high dose, but no cases of hypoglycemia with the low dose regimen. This was the largest comparative study to date.⁹ In our experience, we have found that a sliding scale on a four hour schedule drastically reduces the incidence of hypoglycemia after the patient is out of acidosis. Some authors use a 2-hour schedule.

During ketoacidosis it is important to monitor arterial blood gases hourly along with glucose and ketones. Electrolytes are checked every four hours. We replace fluids with 0.9% sodium chloride and we have arrived at a protocol that is easy to follow, and results in a rapid reversal of acidosis, with minimal risk of hypoglycemia. The protocol is shown in the outline below and is a modified version of that used in a study by Drs. Kitabchi, Ayyagari, and Guerra of Memphis, Tennessee.⁹

- (1) Arterial blood gases every hour
- (2) Urinary glucose and acetone hourly
- (3) Blood glucose hourly until below 250 mg%
- (4) Serum Acetone spot test every two hours
- (5) Electrolytes every four hours
- (6) IV fluids with 0.9% sodium chloride to calculate dehydration
- (7) INSULIN: 0.1 u/lb body weight of u100 crystalline insulin IM until a 10% drop in the serum glucose is seen. This may be repeated hourly until this 10% drop in serum glucose is seen. After a 10% drop in the serum glucose is seen, insulin should be administered at the rate of 5 u per hour IM, of a u 100 crystalline insulin, until the blood glucose is below 250 mg%.
- (8) Sodium Bicarbonate: if pH is less than 7, give two amps (88 meq) IV
if pH is less than 7.15, give one amp (44 meq) IV
if pH is above 7.15, none is needed
- (9) When glucose is below 250:
 - (a) change IV solution to 5% dextrose in Normal Saline
 - (b) get blood glucose every four hours
 - (c) urine check every four hours
 - (d) sliding scale as follows:

4+	= 20 u regular insulin s.c.
3+	= 15u
2+	= 10 u
1+	= 5 u

Give 5 units less if urine ketones are negative.

The ultimate goal is to bring the patient out of acidosis, and reduce the glucose below 250 mg%. Insulin resistance is a widely discussed topic but has never been reported in any study or evaluation of low dose insulin therapy.

In summary, there is little evidence to suggest that large doses of insulin are necessary or indeed desirable. Protocols have been established that lead to safe management with low dose insulin without significant prolongation of time in acidosis and with markedly reduced incidence of morbidity. Protocols are simple to follow, dose calculation is easy, and the rate of fall of glucose is predictable. Finally, it must be emphasized that no insulin regimen will be successful without treatment of dehydration and correction of underlying disease and precipitating factors.

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Multiple Myeloma without M Protein

Jacob Amir, M.D.*

INTRODUCTION

Multiple myeloma is a malignant proliferation of plasma cells with invasion of the bone marrow, production of monoclonal protein or free light chains found in the serum or urine and osteolytic lesions. The presence of the monoclonal protein and free light chains is the most important diagnostic criteria in that disease. In the last few years a number of patients have been described who have clinical multiple myeloma without presence of monoclonal protein.¹⁻⁵ The present report describes such a patient.

CASE REPORT

Mrs. H., a 54-year-old white female, was referred because of severe widespread bone pain of eight weeks duration. The pain was not responding to analgesics. There was no fever and no history of previous trauma. On physical examination, the cardiovascular and pulmonary systems were normal. There was no adenopathy, hepatomegaly or splenomegaly. A pronounced tenderness was found on the right clavicle, the thoracolumbar spine and the left rib cage. Laboratory data revealed a hematocrit of 38%, white cell count of 5,600 with a normal differential count, platelet count of 350,000. Urinalysis showed a pH of 5.5, specific gravity of 1.019. There were no plasma cells in the urinary sediment. There was proteinuria with 1200 mg in 24 hours. No Bence Jones protein was found by heat test. Electrophoresis of the concentrated urine did not reveal any monoclonal protein. The liver and kidney function tests were normal. The sedimentation rate was 10 millimeters in the first hour. The total plasma protein was 5.7 gm% with albumin 3.3 and globulin 1.4 gm%. Quantitative immunoglobulin levels by radial diffusion were: IgG 40 I.U. (normal — 92-207 I.U.), IgA 10 I.U. (normal — 54-268 I.U.), and IgM 30 I.U. (normal — 80-322 I.U.). Skeletal roentgenograms showed numerous osteolytic lesions in the skull, ribs, right clavicle, thoracolumbar vertebra, pelvis and femurs. Bone marrow aspirate from the iliac crest revealed a hypercellular marrow with 87% immature plasma cells. Immunoelectrophoresis of the serum proteins and the urine proteins was repeated five times and did not reveal any monoclonal proteins. A diagnosis of multiple myeloma was made and

the patient was treated with Alkeran, Prednisone and radiation to the clavicle and rib cage. In two weeks the pain subsided and she was able to resume her usual occupation as a clerk.

DISCUSSION

The diagnosis of multiple myeloma in the above described patient was based on massive plasma cell infiltration of the bone marrow, numerous osteolytic lesions and pronounced reduction of the quantities of the normal immunoglobulins. Using immunoelectrophoresis we were unable to detect any paraprotein in the serum and in the concentrated urine. The production of monoclonal protein or free light chains is one of the basic requirements for a diagnosis of multiple myeloma. In different series, approximately 98 percent of patients secreted monoclonal proteins or free light chains.⁶ It appears that the incidence of nonsecretory myelomas is 1-2 percent.⁷

The majority of reported cases of multiple myeloma without monoclonal protein showed intracellular plasma cell production of monoclonal protein. These patients were able to synthesize the monoclonal protein but were unable to secrete it into the plasma. Therefore, this patient should be properly called nonsecretory myeloma. In a few patients, no plasma cell production of monoclonal protein was demonstrated. These patients should be classified as nonsynthesizing myelomas. We could not perform the elaborated studies that could enable us to classify our patient in the nonsynthesizing or nonsecretory myelomas.

As these patients respond well to treatment, it is important to remember that multiple myeloma may present without an M protein.

Acknowledgment. I wish to thank Dr. Michael Harris for referring this patient.

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ELECTROCARDIOGRAM

OF THE MONTH



The Department of Cardiology, University of Arkansas College of Medicine

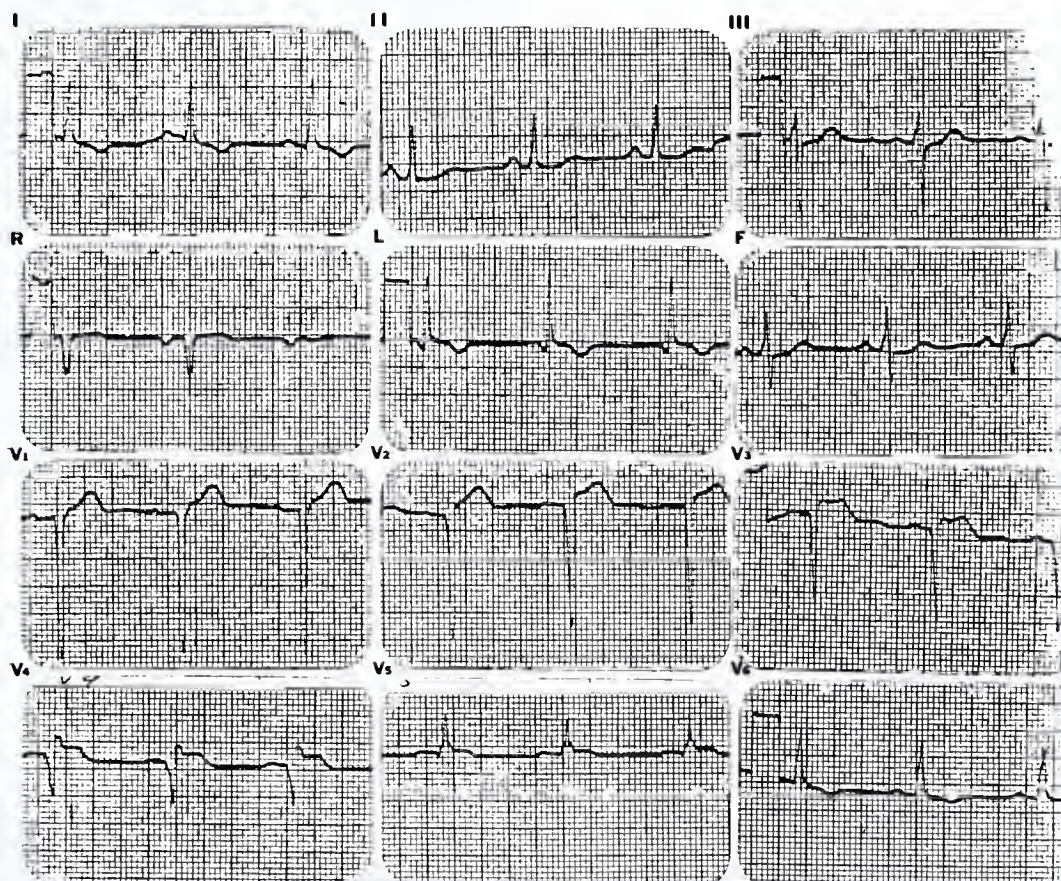
(See Answer on Page 126)

Mr. M. is a 58-year-old white male who sustained anterior myocardial infarction eight months ago. He was sedentary for six months, but then returned to his work which entailed moderate exercise. A gradual decrease in exercise tolerance was noted over two months' time. Paroxysmal nocturnal dyspnea had its onset one month ago. The patient gave no history of chest pain of any sort since his acute infarction. He takes no medications.

On physical examination, he was found to be a dyspnic, normotensive man in moderate distress. Scattered basilar rales, a Grade II/VI apical systolic murmur, and an S3 gallop were all present on physical examination. A chest film showed cardiomegaly with decompensation.

His ECG is shown below and was identical to a trace done six weeks post infarction. The patient's history, physical examination, and electrocardiogram are most consistent with which of the following choices:

- a) Congestive failure associated with acute mitral insufficiency.
- b) Congestive failure associated with recent acute infarction.
- c) Congestive failure associated with ventricular aneurysm.



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Office Orthopaedics

Strap Suspension Frame for Large Cast Application

C. Frank Dodson, Jr., M.D.*

Application of large casts, such as thoracic jackets, hip spicas or pantaloons casts, is at best a cumbersome undertaking for both the patient and the physician. In an attempt to simplify this type procedure, several devices have been made available through the years. An ideal arrangement would be to have the patient suspended in mid-air in a stable position with nothing to impede close comfortable cast fitting. However, no such device has, to date, become readily available.

In an attempt to approach this ideal, a frame of square, thin-walled steel tubing was constructed with some similarities to previously described cast tables, such as those by Kein and Risser. The concept is to provide a stable, hori-

zontal suspension strap for the patient to lie on and supports with which the patient can stabilize himself. A two-inch wide strap is tensioned end to end by use of a hand winch. Hand-hold bars

*Little Rock Orthopedic Clinic, P. O. Box 5270, Little Rock, Arkansas 72205.

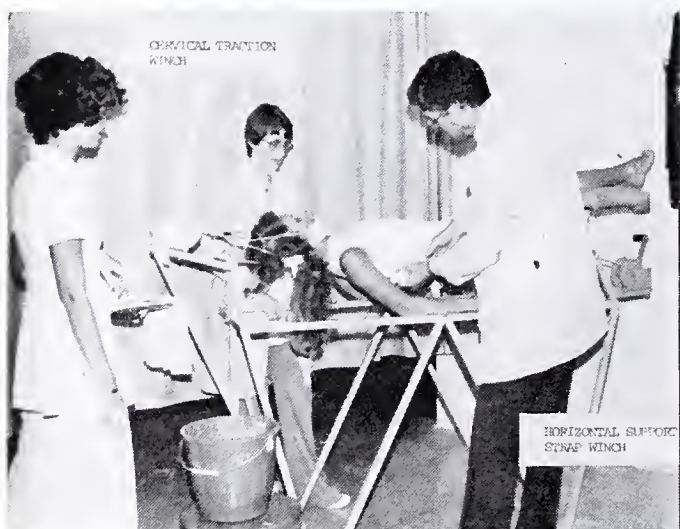


Figure 1.

During application of a thoracic plaster jacket patient has cervical traction applied by a head halter while her legs are supported by an adjustable padded platform. Sheet-wadding cast padding is being applied.



Figure 2.

Felt cast padding is applied over sheet-wadding.

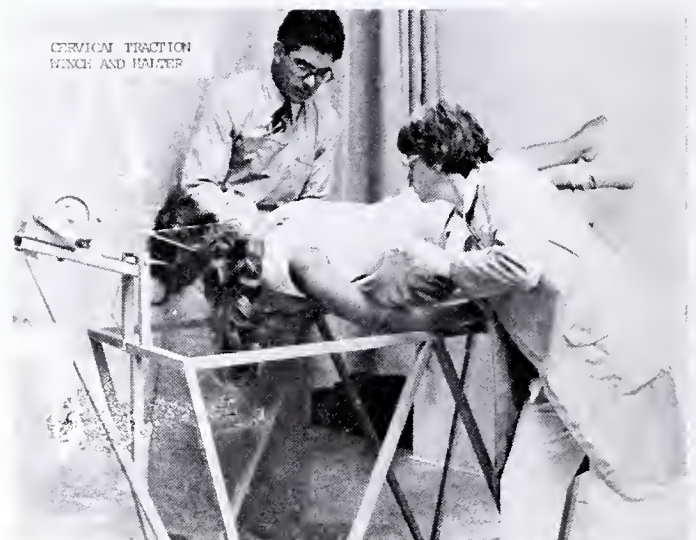


Figure 3.

Plaster jacket is constructed from rolls of plaster and plaster splints.

which can be moved along the top rail of the frame are provided. In cases where plaster jackets are to be fitted, the lower extremities are supported by a padded stable platform. The vertical elevation of this leg platform may be varied to allow appropriate hip flexion. Cervical traction may be employed by use of a cervical halter with tension from the winch at the head of the table. Pelvic traction may be applied by means of muslin straps placed cephalad to the iliac crests across the table in bandolier fashion. Simultaneous cervical and pelvic traction is usually employed during plaster jacket casting to provide close fitting about the waist and pelvis, using the cervical halter as counter traction, to prevent caudal migration of the patient.

For application of hip spica or pantaloon casts, the leg platform is removed and the lower extremities are positioned by an assistant; no cervical traction is necessary.

Double thickness stockinette is applied next to the patient's skin and the patient is then positioned on the horizontal support strap by three

assistants. If indicated, pelvic traction straps are applied, then Webri!® or sheet-wadding is rolled over the stockinette leaving the strap(s) between the stockinette and the cotton padding. Plaster is then applied — usually with cold water — in

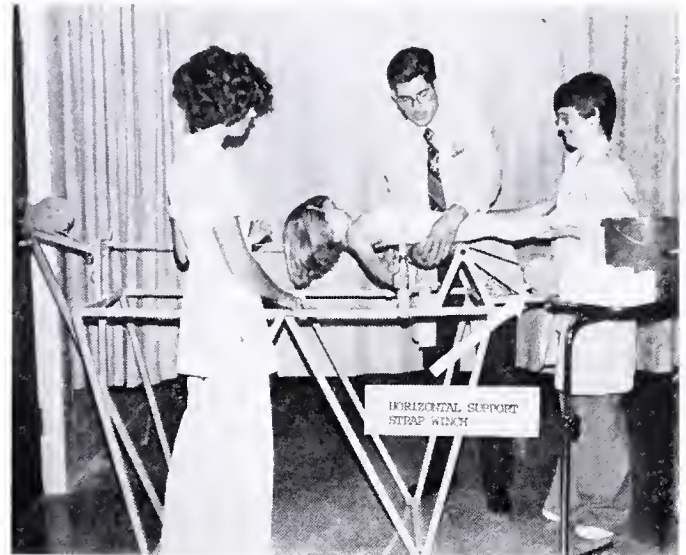


Figure 6.
Patient's lower extremities are supported by an assistant while the cast padding is applied for a spica cast.

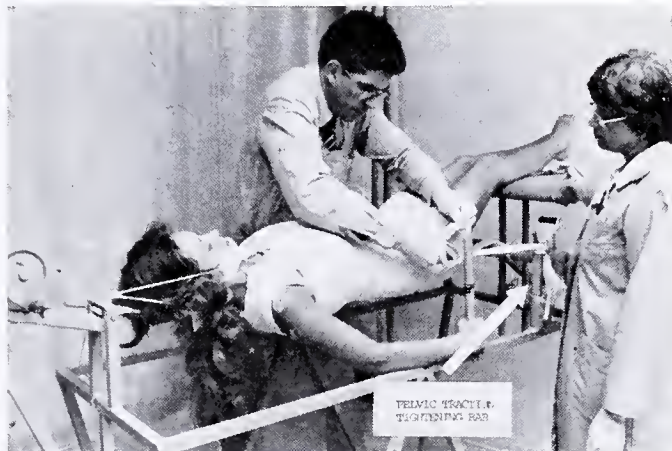


Figure 4.
Anterior portion of the cast is trimmed.

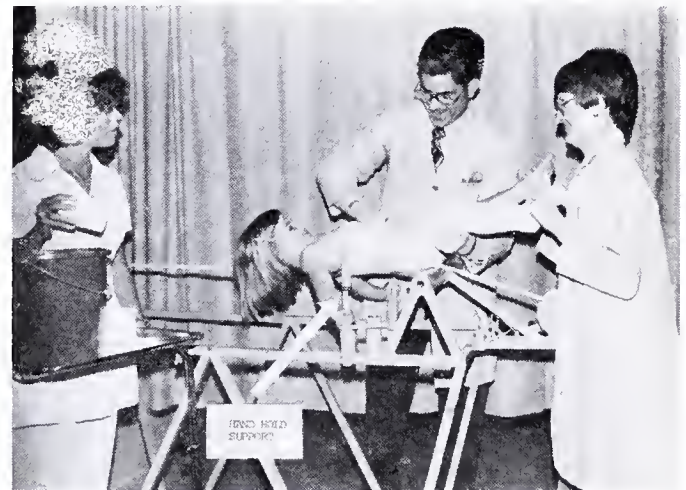


Figure 7.
Plaster is applied.

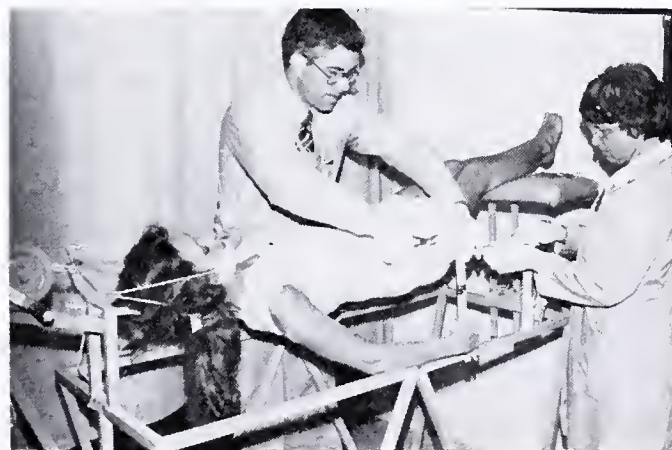


Figure 5.
After plaster has hardened, pelvic traction strap is released and pulled out from under the cast.

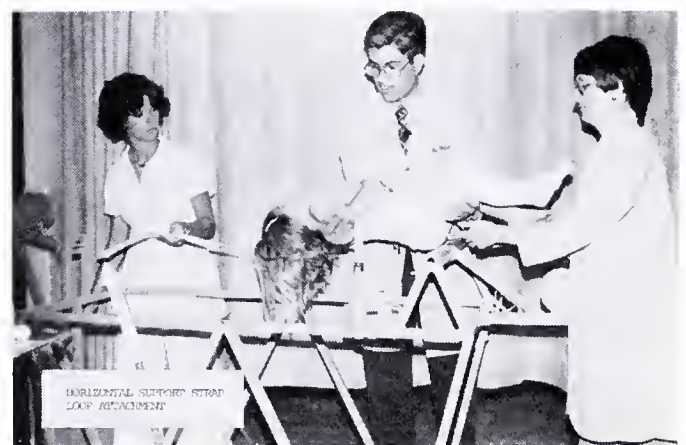


Figure 8.
Support strap has been released and is being pulled through the cast while patient is supported.

order to allow integration of plaster layers and preventing lamination while the cast is applied; waterproof plastic cast material may be similarly utilized. Trimming of the cast is expedited when it can be accomplished with cast knives before the plaster has hardened; anterior trimming can be done with the patient lying on the cast frame.

Removal of the patient from the frame requires vertical support of the patient by assistants after the cast has been dried sufficiently to achieve mechanical rigidity, which has usually occurred by the time anterior trimming has been accomplished. Then tension on the support strap is released by slowly unwinding the tensioning

winch and the other end is released by removal of a metal bar through the loop at the cephalad end of the strap. The strap is pulled out through the cast by an assistant and the patient is placed on a carriage, frequently in the prone position to allow trimming of the posterior aspect of the cast.

Patient acceptance of this device is markedly improved by an explanation of its function and a description of what is expected of the patient during cast application. Once positioned, the patient is in a relatively secure position and does not require assistance except in cases of neurological impairment or other unusual conditions.





Overview of Infant Nutrition, Development and Growth

Ginger Crane, R.N., B.S.N., P.N.P.*

The public health nurse should be knowledgeable in the areas of infant nutrition, development and growth. She should know normal maturation at all ages if she hopes to give comprehensive pediatric care; she should be particularly familiar with maturation during the earliest years, since she occupies a unique position as a family advisor during this period. The following information on nutrition, development and growth should be of particular interest to the PHN working in well baby clinics.

Fluid and Nutritional Requirements For Metabolism and Growth

During the first six months of life fluid requirements range from 130-190 ml/kg/day or 2-3 oz/lb/day, allowance being made for loss of water in urine and stools, by evaporation from the skin and in expired air. The general rule is that a child of one year should take 1000cc a day, and an additional 100cc should be added for each year of life; e.g., a child of two years should take 1100cc of fluid per day.

The *protein* requirement for growth and for repair of tissue is 1.5 to 2 gm. per pound of body weight. One ounce of cow's milk provides 1 gm. of protein.

The average *caloric requirements* of full-term infants are about 50-55 kilocalories per pound or 110 to 120 kilocalories per kg during the first few months of life; and about 45 kilocalories per pound, or 100 per kg (or slightly less). By 1 year of age, individual variations are significant, and for many infants intakes of this order are in excess of caloric need.

The *fat* content of milks is more variable than any other constituent, but the average content is about 3.5 percent (human milk — 3.8%, cow milk — 3.7%, evaporated milk — 8.2%).

Breast milk and cow milk each contains relatively large amounts of Vitamin A and small amounts of Vitamin D. Human milk has Vitamin C except when the maternal intake is deficient in Vitamin C-containing foods. It is assumed that each milk contains adequate amounts of Vitamin A and B-complex vitamins and inadequate amounts of Vitamins C and D for the nutritional needs of infants in the first months of life. Mothers who are either breastfeeding or using evaporated milk formulas need to know that vitamin supplementation is necessary for the infant to receive total nutrient needs. The infant's continuing need for breast milk or appropriate formula as the prime contributor of energy and nutrients should be stressed at each contact with mothers during the greater part of the first year.

The amount of whole milk taken daily in the first 6 months of life varies from 1¾ to 2 ounces per pound (125-230 ml/kg) of body weight (evaporated milk undiluted, approximately 1 oz/lb, or 55 ml/kg). The relative requirements are somewhat less in the first 2 weeks than in the succeeding 5 to 6 months. After this time milk, though still of great value, has diminishing importance in meeting total nutritional requirements.

Rarely is it necessary to use more than one can (13 fluid ounces) of evaporated milk or a quart of prepared formula per day.

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<i>Age</i>	<i>Average Number of Feedings in 24 hours</i>
Birth — 1 week	6 — 10
1 week — 1 month	6 — 8
1 — 3 months	5 — 6
3 — 7 months	4 — 5
4 — 9 months	3 — 4
8 — 12 months	3

<i>Age</i>	<i>Average Quantity Taken In Individual Feedings</i>
1st and 2nd weeks	2 — 3 ounces (60-90 ml)
3 weeks — 2 months	4 — 5 ounces (120-155 ml)
2 — 3 months	5 — 6 ounces (150-180 ml)
3 — 4 months	6 — 7 ounces (180-210 ml)
5 — 12 months	7 — 8 ounces (210-240 ml)

Based upon an absorption efficiency of 10%, an iron intake of 1.0 mg/kg/day to a maximum of 15mg., if begun at an appropriate time with respect to initial iron endowment, will provide sufficient iron to maintain normal hemoglobin values in most infants. This figure allows some leeway for individual variability in absorption and iron endowment. A somewhat greater allowance (2.0 mg/kg/day begun by age 2 months to a maximum of 15mg) is advisable for low birth weight infants, for infants with low initial hemoglobin values, and for those who have experienced significant blood loss.

Infants who consume homogenized milk during the first 6 months of life, and later take a quart or more daily, are often anemic. In fact, such infants may become severely anemic. Non-heat-denatured cow milk (homogenized milk) induces enteric blood loss and causes or contributes to the severity of up to 50% of cases of iron-deficiency anemia seen in pediatric clinics in the United States. The greater the amount of homogenized milk ingested, the greater the amount of blood that may be lost in the stools. The causative factor in homogenized milk is a protein fraction that is usually rendered innocuous by the heat-processing employed in the production of evaporated milk or infant formulas, but not by pasteurization. The low iron content in homogenized milk and the potential for insult to the infant's intestinal mucosa, resulting in loss of red blood cells and plasma into the bowel, can cause or accentuate iron deficiency.

Human and cows milk contain little iron (about 1.5 mg/l and 0.5 mg/l, respectively). About 15 quarts of cows milk would have to be consumed each day to provide enough iron to meet the requirements of normal infants during the first year of life. When milk accounts for a large proportion of the infant's calories, the diet will be grossly deficient in iron. Iron content of a diet consisting primarily of unfortified milk is always inadequate. Even when a good mixed diet is consumed, the intake of iron does not usually exceed 6.0 mg/per 1,000 kcal unless foods artificially enriched with iron are utilized. To meet the recommendations, iron supplemented foods are necessary during infancy.

Iron requirements of normal infants can be met in a number of ways. Daily consumption of 1/4 oz. dry weight or iron enriched baby cereal (2 to 3 dry tablespoons of 30 to 45cc of reconstituted cereal) beginning by 2 months of age and progressively increasing to 1/2 oz. dry weight (5 to 6 tablespoons or 60 to 90cc of reconstituted cereal) by 6 months of age assures an adequate iron intake for all infants except for those with low initial endowment. Commercial infant cereals provide 8.6 to 22mg. of iron/dry ounce of cereal. Consumption of iron-enriched milk formulas also assures adequate iron intake. Several studies have indicated that iron-deficiency anemia can be prevented by the use of cows milk formula to which iron has been added. Formulas containing iron are commercially available. A 20 cal/oz dilution formula with iron has 12mg. ferrous iron/liter.

Premature infants should receive an iron intake of 2.0 mg/kg/day, which may require oral medicinal iron supplement in addition to iron-supplemented formula. Infants whose weight is lower than 2.0 kg should receive 25 IU of supplementary oral Vitamin E daily for the first several weeks of life.

Current texts in infant nutrition and pediatrics point out the trend toward earlier introduction of solid foods, but emphasize that there appears to be no advantage to this practice during the first 6 months of life. There is little evidence of significant contribution to infant well-being before at least 3 to 4 months of age. Specific recommendations for age of introduction of particular foods are generally avoided. The most frequently cited reasons for delaying introduc-

tion of solids are cost, potential for over-feeding and possibility of establishing unsound food habits. Mothers in the United States seem to consider the first feeding a developmental milestone, and because infants appear capable of taking solids early, physicians are reluctant to discourage mother's eagerness. A concern often expressed by mothers is the mistaken concept that breast milk or infant formula alone no longer satisfies the baby. Many mothers seem convinced that solids will help infants sleep through the night, although several studies have failed to confirm this belief. Substituting certain strained foods for milk or formula can result in an infant's receiving fewer calories than if only milk or formula were fed. Strained fruit juices, creamed and plain vegetables, soups and dinners all contain, on the average, fewer calories per 100 gm than whole milk or infant formula. On the other hand, the early introduction of solids, without a concomitant decrease in formula, can result in an overweight infant by age 3 to 6 months.

Weaning foods should be introduced slowly, one at a time. These additional foods should be neither the sole nor major source of nutrients. Milk remains the main source of energy and nutrients until the infant is about 5 months of age. Small amounts of each new food should be introduced and time should be allowed (4-5 days) for the infant to become accustomed to it. This will give the mother an opportunity to observe that her baby tolerates each new food. It is reasonable to add iron-fortified infant cereal, strained vegetables, strained fruit and juices, strained meats and, finally, egg yolks in this order. As weaning foods are introduced, mothers should be reminded of the continuing need for breast milk or formula. Mothers anxious to begin teaching their infants to drink from a cup should be encouraged to pour formula into the cup and not to switch to homogenized milk.

Development and Growth

Development and growth are continuous dynamic processes occurring from conception to maturity and taking place in an orderly sequence which is approximately the same for all individuals.

Within the first days of life, the newborn may lose up to 10% of his birth weight. Most full-term infants regain their birth weight by 10 days

of life. After this, weight gain averages approximately 20 to 30 grams per day for the first 5 months of life and approximately 15 gm per day for the remainder of the first year. The full-term infant will generally double his birth weight by 5 months and triple it in 1 year. Body weight is probably the best index of nutrition and growth. In the early months of life there is a conspicuous increase of subcutaneous tissue, which reaches its peak by about nine months.

Birth length is doubled by approximately age four. The length of the normal infant increases during the first year by 25 to 30 cm (10 to 12 inches).

At birth, the head is approximately three-fourths of its total mature size, whereas the rest of the body is only one-fourth its adult size. The brain reaches about 90% of adult size by the time the child is 2 years of age. The head circumference increases approximately 1/2 cm per week for the first 3 months of life and further increases to approximately 44 cm by 6 months and to 47 cm by 1 year of age. An accepted rule of thumb is that the head circumference in centimeters is equal to 1/2 of the body length in centimeters plus 10 until about 16 months of age.

The newborn sees at birth and is able to fixate points of contrast in the visual field. The ability to fixate is usually well-developed by 2 to 3 months. By 8 to 10 weeks the infant follows a moving object through a motion of 180 degrees. Strabismus normally may be present for the first 6 to 8 months of life.

Deciduous teeth appear in most infants between 5 and 9 months. By 1 year of age most children have 6 to 8 teeth. Occasionally an infant has as few as two teeth at 1 year without other evidence of growth disturbance.

Complete neurologic examination and Denver Developmental Test are not always carried out at the time of the well child check-up. There are certain warning signs, however, that should provoke further evaluation of the infant (Table 1). Awareness of these easily observed abnormalities will make even the briefest examinations more complete.

The pediatric health care provider should have available an index of achievement levels for specific age ranges. The pattern of human growth is so constant and universal that the

DEVELOPMENTAL WARNING SIGNS
TABLE I

WARNING SIGNS AT DIFFERENT AGES

Age*	Weight (kg) 3rd-97th percentiles	Skull Circ. (cm)	General	Hearing and Speech	Vision	Arms	Legs	Pelvis
6 weeks	3.4-5.9	35-41	Any major maternal anxiety. "Fits," "spasms," or "colic" of uncertain origin at any time, especially first six months.	Absence of auditory "alertness."	Lack of fixation or following at 9 to 12.	Excessive head lag on pulling to sitting position. Asymmetry in movements, tone, or neonatal responses.	Immobility or undue extension.	Definite click or instability of hips. Absent femoral pulses.
6 months	5.9-9.4	40-45	Persistence of heart murmur. Lack of smiling. Fits or spasms as above. Persistence of hand regard.	Failure to localize to soft sound on either side.	Failure to fix & follow both near & far objects around 180. Persistent squint.	Failure to reach out or transfer (both hands). Persistent fisting or preference for one hand.	Increased abductor tone. Increased reflexes. Clonus.	Limited abduction of hips. (X-ray necessary.)
10 months	7.2-11.0	43-49	Absence of chewing. Lack of imitation.	Absence of babble.	Squint or nystagmus.	Abnormal hand posture or ataxia.	Absence of weight-bearing while held.	Failure to sit without support.
18 months	8.8-13.6	45-50	Absence of constructive play. Persistence of casting, drooling, or mouthing.	Lack of spontaneous vocalization.	Any apparent visual defect.	Abnormal grasp, abnormal posture, no pincer grip.	Inability to stand without support.	
2 years	9.6-14.9	46-51	Hyperkinesia, failure to concentrate.	Absence of recognizable words.	Failure to match toys.	Tremor or ataxia with bricks.	Lack of walking without aid.	

*Conceptual rather than chronologic age.
Reference: Wood, B. (Ed.): *A Pediatric Vade-Mecum*, London, Lloyd-Luke (Medical Books) Ltd., 1974, p. 7.

study of hundreds of normal infants and children have made it possible to set up typical profiles of development. Profiles of normal development can be found in most pediatric texts. Before examining the baby's development, stage by stage, there are two factors to keep in mind. These are: (1) The factor of individuality. No two children are exactly alike at a given age. (2) The continuity of development. The pattern of human development is not one of static steps or stages. The developmental progress must be visualized as a continuous one, proceeding along many levels at once toward maturity.

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ANSWER—Electrocardiogram of the Month

The electrocardiogram is abnormal, showing Q-waves in leads AVL and V1-V4 with ST elevation most noteworthy in V1-V4. There is minimal, if any, ST depression in the inferior leads. These changes, having persisted for six months or more, together with his history of slowly progressive failure upon resumption of physical activity, are most suggestive of ventricular aneurysm.



EDITORIAL

Some New Vistas on High Blood Pressure and Suppressor Cell Disorders

Alfred Kahn, Jr., M.D.

Laragh and his associates continue to be in the forefront of investigators in the field of hypertension. They have given a very interesting combined clinical and basic science seminar on "Converting Enzyme Angiotensin II, and Hypertensive Disease." (American Journal of Medicine, Vol. 64, p. 147, Jan. 1978.)

Dr. Richard Soffer, a participant, presented a historical perspective on the renin-angiotensin system from Tigerstadt to the present. The current concept being that angiotensinogen in the blood is converted to angiotensin I by renin. Angiotensin I is in turn converted to angiotensin II by converting enzyme. Angiotensin II is considered the biologically active enzyme. Converting enzyme is found in very large quantities in the lung. It has been found to a lesser extent in other organs. Converting enzyme is a large glycopolypeptide bound to zinc. Antibody has been developed which inhibits this glycoprotein regardless of the organ in which it derives. The glycoprotein from different organs appears to be chemically somewhat different in some cases. Converting enzyme also reacts with bradykinin and its effect is vasopressor.

In the same review, Dr. David B. Case discussed the physiology of the converting hormone. He points out that when either sodium or extracellular fluid declines, there is an accompanying fall in cardiac output and perfusion of the circulatory tree. When this occurs, the juxtaglomerular cells, release renin; renin initiates the cycle involving angiotensin I — thus leading to vasoconstriction; also angiotensin II causes the

release of Aldosterone. Aldosterone's function is to cause the kidneys distal tubules to absorb sodium and fluids. This leads to a feedback in which renin secretion is decreased. In light of this knowledge, Case explains that the 24 hour urine sodium output should bear a definite relationship to plasma sodium; a similar relationship obtains between sodium and angiotensin II. Also urinary aldosterone should bear a relationship to urinary sodium. Using the sodium to renin ratio, Case reports three different hypertensive groups: suppressed renin level with normal salt intake with a normal rise on sodium restriction, a second group which had high renin with normal salt intake — and the high renin is said to play a hypertensive role here, and a third group low renin group in which the renin did not rise on sodium restriction — this group is said to have a high circulating blood volume and this suppresses renin. Saralasin is taken up by angiotensin receptors and is used experimentally. He also reports the use of SQ20881 which is said to competitively inhibit angiotensin II. SQ20881 tended to reduce the blood pressure in all three groups. However, in low renin group SQ20881 was largely ineffective; saralasin increased the blood pressure in this group. Case feels that SQ20881 is a more accurate way of studying the relation of renin and angiotensin to blood pressure than saralasin. He further feels that low renin hypertensives eating a diet without salt restriction will show no drop in blood pressure; normal renin drops 7-12%, and high renin more than 12%. Low renin subjects if given a diet

with less than 50 ME per day do not show a rise in renin activity. Case feels that the greatest tool to be developed for treating hypertensives is a good oral medication which blocks converting enzyme.

Of special interest amongst the newer work in immunology is a National Institute of Health Conference on "Disorders of Suppressor Immunoregulatory Cells in the Pathogenesis of Immunodeficiency and Auto Immunity" moderated by T. A. Waldman (*Annals of Internal Medicine*, Volume 88, page 226, February 1978). Dr. Waldman explains in his introductory paragraphs how immune responses are regulated by suppressor cells which as a negative check on the positive immune response. It has been found that many immunologic disorders are associated with upsets in the suppressor cell systems. Waldman reviewed the current status of hypogammaglobulinemia in man; antibody is produced by plasma cells which derive from the bone marrow stem cells; the stem cells form B-lymphocytes which have surface receptors. When the receptors interact with appropriate antigen the B-cells multiply and antibody forming plasma cells are produced from the B-cells. The T cells seem to form two distinct groups; one of which promotes the production of antibody and the other group tends to act as a suppressor cell. Waldman says that the immunodeficiency diseases which demonstrate hypogammaglobulinemia are considered to have maturation defects of the B-cell-plasma-cell series — thus a defect in antibody production. The defect can occur at different stages of maturation. The blood of patients with reduced immunoglobulins due to common variable immunodeficiency disease was studied to see if the defect was to B-cell defect or a suppressor cell abnormality. It was found that immunoglobulin formed by lymphocytes from normal people was reduced when the normal lymphocytes were exposed to lymphocytes from patients with common variable hypogammaglobulinemia, or by purified T cells alone from the patient group. He cautions that this does not apply in every disease as this suppressor phenomenon does not occur with blood from leukemic patients for example. Waldman says that most patients with hypogammaglobulinemia have a primary B-cell defect which is associated with a development of suppressor cells. The authors also studied a group of patients in which disordered T cells

seemed to play a fairly fundamental or primary role. Selective Ig A deficiency was reported to be the most common of the primary immunodeficiency diseases of man; in this disorder Ig A is absent in the serum and secretions — some individuals have an intrinsic defect in the B-cell-plasma cell system; others have Ig A class specific suppressor cells.

R. M. Blaese reported in this symposium about T suppressor cells as mediators of "Infectious Agammaglobulinemia" of birds. From these studies, they concluded that suppressor T cells can cut off the formation of immunoglobulin production, and can maintain suppression once established. They further state that immunoglobulin formation can be stopped without stopping production of B lymphocytes. Thirdly, they noted that suppressor cells are specific for each type of immunoglobulin.

"Suppressor Cells in the Humoral Immunodeficiency of Multiple Myeloma" was presented by S. Broder. In this disorder Dr. Broder says that a monocyte type cell, not of T-cell origin, acts as to block the change of B-cells into plasma cells which can synthesize immunoglobulins.

In autoimmune diseases there are disorders of the suppressor cell system, and features of this were described by R. S. Krakauer. He suggests that autoimmune disease may be the result of loss of effective suppressor T-cell function. He studied mice who developed autoimmune disease and found that the soluble immune response suppressor effectively prevented autoimmune disease in this laboratory animal.

The symposium was closed by Dr. Waldman who discussed the implications for immunoprophylaxis and immunotherapy. He projected that suppressor cells might be selectively inhibited without affecting the production of antibodies or helper T-cells. Allergies were cited as being caused by excessive Ig E antibodies — and it has been shown that this antibody can be reduced markedly by T-cell suppression. Ig E may not be properly inhibited by suppressor cells and lead to clinical illness as recurrent infection. It is postulated that allergies may be caused by excessive Ig E due to failure of T-cell suppression. Tremors are often associated with immune defects — excessive numbers of suppressor cells in this case; the suppressors are said to possibly inhibit the hosts immune attack on the tumor.

MEDICINE IN THE



THE MONTH IN WASHINGTON

The Health, Education and Welfare Department has asked the Justice Department to delay granting the nation's hospitals an exemption under the antitrust laws in order to carry out their voluntary cost containment effort.

John Alexander McMahon, AHA President, said that "it seems passing strange that HEW would undermine and even try to undercut our Voluntary Effort" by taking this position before Justice.

HEW told Justice in a letter there may be "a serious lack of public accountability and public participation in the Voluntary Effort conducted by the AHA, the American Medical Association and the Federation of American Hospitals."

HEW General Counsel wrote Justice that the Voluntary Effort might discriminate against smaller community hospitals and health maintenance organizations and also might work to hold down wages of hospital workers.

HEW has been hostile to the Voluntary Effort from the outset, contending that only mandatory federal controls as embodied in the Administration hospital cost containment program are the answer to inflation in hospital costs.

Meanwhile, the war of words on the Administration's controversial hospital revenue control plan heightened when HEW Secretary Joseph Califano charged that opponents of the plan are "crowding the halls of Congress" and "lobbying for runaway inflation."

"Even Lloyds of London backed by the United States mint could not afford to insure the existing profligate, inflationary health care industry," he said in a speech.

The vote on hospital controls in the House Commerce Committee is considered the key to the fate of the Administration's plan. President Carter has dispatched a letter to every member of the Committee urging them to back the Administration's plan.

Stuart Eizenstat, White House Domestic Affairs Chief, said the issue before the Committee

was "whether we have as a nation the capability of facing up to the inflation problem."

* * * *

HEW is preparing to launch a program to encourage second opinions for surgery for Medicare/Medicaid patients. Patient pamphlets, physician enrollment, and radio-television ads ("second opinion — it's good for you") are projected.

"List-developers" will set up lists of physicians willing to participate in a second opinion (SO) program, on patient request. "List holders" will operate telephone referral centers to which patients may apply for the names of participating physicians.

Developers will query physicians as to their willingness to participate, inform them of any "ground rules," and develop the lists, with appropriate information such as willingness to accept Medicaid patients.

The Health Care Financing Administration of the HEW Department believes professional standards review organizations (PSROs) are the logical units to handle the "list" functions. However, carriers and medical societies also are eligible.

Public campaigns will begin soon and will consist of brief TV spot announcements and longer radio "dramas" on "SO" which will be distributed to stations. Five million leaflets will be distributed with Social Security checks in selected areas. A national "hot-line" (800 number) will be established, probably with the PSRO clearinghouse in Rockville, MD.

Once the program is operational, callers will be given the name of two or three physicians who are willing to accept requests for second opinion consultation. Wherever feasible, the referral center will try to give the names of physicians with some special competence in the type of condition for which surgery has been recommended, HEW said.

For Medicare patients, the program will pay for the second opinion as for other consultations, at 80 percent of the "reasonable charge," while

Medicaid participation and payment, thus far, is at the option of the individual state. This may pose a tough problem in some states.

As presently planned, use of the "second opinion" will be at the patient's option, and the second opinion will not control payment for services.

The "SO" program is based on the assumption that second opinions will forestall unnecessary surgery.

* * * *

Attacking "federal bossism" in health planning, an AMA official has said that planning must be flexible and "cannot be stereotyped from federal blueprints."

Frank J. Jirka, Jr., M.D., Vice Chairman of the AMA Board of Trustees, told a National Journal Conference on Health Policy that the best way to uphold availability and quality is to have planning decisions made at the local level. Practicing physicians should be well represented on planning bodies, Dr. Jirka said.

The planning guidelines recently put into effect are still mandatory . . . "in a way that runs counter to Congressional intent" he declared and "complaints about the guidelines keep pouring into HEW headquarters . . . and now exceed 70,000." The standards "ignore many of the realities of medical care . . . and could cause substantial disruption in the accessibility and provision of health services," according to Dr. Jirka.

Although the HEW Secretary has given assurances against the closing of existent hospitals, "they are not borne out in the body of the guidelines," Dr. Jirka noted. "Even the expansion of physicians' offices and their equipment would be affected if Congress decides to include them in the planning act's certificate-of-need provisions," he said.

"There is as yet little evidence to support the notion that certificate of need results in significant cost savings," said Dr. Jirka. "And if it doesn't, why badger doctors' offices with it?"

* * * *

The AMA has cautioned against precipitous or unilateral government action in the field of computer technology for medical purposes. Such intrusion "might retard the momentum" developed with computers, the AMA told a House science subcommittee. H. Phillip Hampton, M.D., speaking for the Association, said "the primary thrust in the growing and changing

field of computer technology has been and should remain in the private sector."

However, Dr. Hampton said, the federal government has an important role in assisting the development of technology and "should remain a stabilizing influence . . . such a stable influence can be best achieved by continuing to fund substantial research and development projects, by insuring only necessary requirements on the individuals and organizations involved in medical services delivery at the local level."

Computers should improve methodologies of prevention and treatment of diseases by increasing the level of preventive, diagnostic and therapeutic medical skills; and make the skills accessible by providing them at a cost within the financial reach of the patient, Dr. Hampton said.

"Since many physicians are reaching the point of overload in trying to maintain and improve patient care while complying with increased administrative and governmental demands, use of computer technology has become more attractive," he noted.

Computers have "an enormous potential in improving patient care, in creation, storage, maintenance and retrieval of medical records, in improving preventative, diagnostic and therapeutic skills, in reducing the rate of increasing costs, in improving facility and personnel utilization and in improving office management," the AMA spokesman testified.

* * * *

The Chairman of the Council on Economic Advisors told the Administration that it is "unrealistic at this time to propose a national health insurance (NHI) package which mandates universal and comprehensive low-dollar coverage."

In paper on NHI prepared for Presidential review, Charles Schultze said comprehensive coverage would "stretch thin" the health sector resources and thus exacerbate inflation. A sweeping NHI program would tend to "override completely" consumer latitude in choosing between health care and other goods and services such as housing and education, he said.

The paper said the CEA believes the Administration's NHI plan should include better and "more rational" health assistance for the poor, and catastrophic coverage for lower and middle-class families. Those objectives should be financed out of general revenues, CEA said, but without public reinsurance of private catastroph-

ic programs except, perhaps, for health maintenance organizations. Otherwise, any mandated increase in private coverage — “presumably financed by premiums” — should be considered in terms of a “minimal target package stripped of preventive care,” the paper added.

The CEA paper also insists on stronger cost controls through regulatory legislation, but apart from any expensive health care package. “If the politics of the situation make it possible to combine a comprehensive benefit package with strong cost control, they should also make it possible to get the same cost control without the comprehensive package . . . insurance companies and individuals, who are the beneficiaries of a larger package, are not the ones who object to cost control,” the paper concluded.

Enactment of a national health insurance (NHI) program with first rate mental health benefits may be the best single step to help mentally ill Americans, according to the report of the President’s Commission on Mental Health.

Declaring that one out of every seven suffers from some mental affliction, the Commission reported that too many of these are untreated. Almost half of the population could be classed as mentally ill or as experiencing severe emotional problems, the report said.

The Commission, headed by Thomas Bryant, M.D., was formed more than a year ago as a response to the keen interest in mental health by Mrs. Rosalyn Carter and special White House Health Assistant, Peter Bourne, M.D., a psychiatrist.

“We firmly believe that a national health insurance program which includes appropriate coverage for mental health care offers the most effective means of providing adequate financing for . . . all Americans,” the 20-member panel reported.

* * * *

A “middle-of-the-road” national health insurance bill with powerful Senate backing has been introduced into the Congress. Emphasis in the bill is placed on catastrophic coverage.

The measure is supported by Chairman Russell Long (D.-La.) of the Senate Finance Committee, Health Subcommittee Chairman Herman Talmadge (D.-Ga.), and Sens. Abraham Ribicoff (D.-Conn.) and Robert Dole (D.-Kans.).

The bill is substantially the same as the one introduced in the 94th Congress by Long.

“Our purpose . . . is to have before the Congress and the American people a legitimate national health insurance approach developed by the Congress,” Long told the Senate. “This is not the Administration’s proposal, nor that of any special interest group. It is our legislation.”

* * * *

In an unprecedented joint effort, Senator Edward Kennedy (D.-Mass.) and the AMA will sponsor a two and a half day conference on “Positive Health Strategies” in Washington, D.C., July 25-27.

The sponsors have announced plans to bring together interested groups as cosponsors and participants to focus public attention on the potential benefits of strategies of *disease prevention* and to project possible programs for improvement in the 1980s.

The preliminary program lists keynote speakers as Senator Kennedy, Tom E. Nesbitt, M.D., President-Elect of the AMA, George Meany, President, AFL-CIO, and Lester Breslow, M.D., Dean, School of Public Health, University of California, Los Angeles.

In an address before the AMA’s Leadership Conference in January of this year, Senator Kennedy issued an invitation to the AMA to join him in sponsoring a national disease prevention conference designed to focus the attention of the nation on the great potential of preventive measures to reduce the toll of disease in our population.

Dr. Nesbitt, in accepting for the AMA, stated, “we are happy to participate in an arena that encourages a wide spectrum of ideas and programs on health. Organized medicine and physicians have long been concerned with and active in the areas of disease prevention and positive health programs. We are certain that this interaction will be profitable to all Americans.”

Meanwhile, Sen. Kennedy has launched a major new health initiative with introduction of legislation to instruct Americans on good health practices and disease prevention.

National health insurance can improve access to care, but it can’t “make us a healthier and more long-lived people unless it is combined with a comprehensive strategy for reducing death and disability through prevention,” Kennedy told the Senate.

The bill calls for spending of \$150 million the first year climbing to \$300 million. Existing

health promotional activities would be expanded at the federal, state and local level and new ones installed.

Lowell Steen, M.D., a member of the AMA Board of Trustees, said the AMA is "basically supportive" of the measure, formally called the National Disease Prevention and Health Promotion Act of 1978. Dr. Steen told a national television audience that some of the programs are "things that the AMA has been advocating for many years." However, we have "some reservations" about certain provisions, Dr. Steen said.

Sen. Kennedy, appearing on the same program, said "I think we've got a good partnership," noting the jointly sponsored conference with the AMA in late July.

* * * *

The White House Council on Wage and Price Stability plans an educational program for physicians on inflation in health care costs. The Council also will seek the assistance of the AMA in developing an effective monitoring or reporting mechanism to measure the rate of physicians' fees with respect to an agreed upon "measuring device or indicator."

The objective is to develop a long-term mechanism to assist in cutting the rate of increase in the future.

The plans were discussed with AMA officials at a recent Washington, D. C., meeting. Among those attending were John Budd, M.D., AMA President; Frank Jirka, M.D., Vice Chairman of the AMA Board of Trustees; and Bernard Harrison, AMA Group Vice President.

* * * *

The sweeping drug bill before Congress signals a shift in philosophy "where government takes it upon itself to 'protect' patients from their physicians," the AMA has told the Senate Human Resources Subcommittee on Health.

The current philosophy is that of a "joint effort of government and the medical profession to protect unsuspecting patients from unethical manufacturers and vendors," testified Lowell H. Steen, M.D., a member of the AMA Board of Trustees.

The Subcommittee, headed by Sen. Edward Kennedy held four days of hearings in a debate-type format on various provisions of the Administration's ambitious proposal to revamp the drug laws.

Dr. Steen said the provisions aimed at "pro-

tecting" patients "would unjustifiably interfere with the practice of medicine by placing the Food and Drug Administration between the physician and the patient through the imposition of national standards and criteria for use of drugs."

The bill gives the FDA power in determining safety of a drug, such factors as abuse potential, whether the drug is being used for non-approved uses, whether FDA believes there is a more appropriate drug or treatment, and whether the drug would have an adverse effect upon public health, the AMA witness noted.

Dr. Steen said "risk of side effects, dependency and other issues of concern are weighed by the physician, using his clinical judgment and knowledge of the patient. It would not be in the interest of providing the best care for patients to reduce the practice of medicine to that of merely following a government issued cookbook or instruction manual on medical practice and treatment modes."

"In the real world of actual practice, physician use of drugs is best controlled, not by the FDA, but by appropriate peer review, continuing medical education and the physician's training and experience, together with his desire to do what is best for his or her patient," said Dr. Steen.

* * * *

The Administration's \$500 million Health Maintenance Organization (HMO) bill ran into opposition from key Senators alarmed over reports of widespread fraud and abuse.

"Wouldn't it be best to put brakes on the whole HMO program?" asked Sen. Herman Talmadge (D.-Ga.), Chairman of the Senate Finance Subcommittee on Health. Sen. Sam Nunn (D.-Ga.), Vice Chairman of the Senate Permanent Subcommittee on Investigations, agreed. Sen. Carl Curtis (R.-Neb.) said that if HMOs are "any good, they will grow on their own" without the need for any federal subsidy.

Nunn told the Finance Subcommittee that "unless remedial action is taken, the federal government, through its program of financing the development of HMOs, faces the prospect of encountering nationwide the same kind of scandal and abuse that have plagued the California Medicaid program." There is evidence that organized crime is moving into the HMO field, the Georgia Senator warned.

The Investigations Subcommittee recently re-

leased a report charging large scale abuse and fraud in the California HMO program.

* * * *

MENTAL HEALTH COMMISSIONER APPOINTED

Dr. Robert M. (Mike) Rankin, who is a psychiatrist and was previously program chief of the San Mateo County, California, Mental Health Services, has been appointed Arkansas Mental Health Commissioner. Dr. Rankin is a native of Lake Village and was appointed to succeed Dr. George W. Jackson, who is retiring in February 1979.

Dr. Rankin served previously as a physician with the Los Angeles County Mental Health Department, 1969 until 1972; Peace Corps volunteer in Ethiopia, 1972 until 1973; and Medical Director, Health Officer and Social Welfare Superintendent for the Long Beach, California, Health Department, January 1975 until May 1976, when he moved to San Mateo, California.

Dr. Rankin began his duties as Mental Health Commissioner on August 1, 1978.

* * * *

MEMORANDUM

To: Member and Fellows of The American College of Physicians
 From: Robert H. Moser, M.D., F.A.C.P.
 Executive Vice President
 Re: *Traveling Scholarships*
 The American College of Physicians has avail-

able five Traveling Scholarships annually. These are available to Members and Fellows only, not to Associates.

- (2) Brower Traveling Scholarships
- (1) Thompson Traveling Scholarship (particularly directed toward the field of endocrinology)
- (1) Stengel Traveling Scholarship
- (1) Hutton Traveling Scholarship (restricted to the field of endocrinology)
- (1) George C. Griffith Traveling Scholarship

The aim of these scholarships shall be to provide an opportunity for physicians to spend a month, more or less, as visiting fellows at some institution, or institutions, for observation in postgraduate study. The stipend of \$500 is used for payment of travel or other expenses, in whole or in part. The recipients are chosen by the Fellowships and Scholarships Committee and approved by the Board of Regents of the College.

Applications must be filed by July 1, 1978, for Traveling Scholarships in 1979. The scholarships commence any time after January 1, 1979, at the convenience of the recipient and the preceptor or institution.

For information and application forms, write:
 Secretary, Fellowships and
 Scholarships Committee
 The American College of Physicians
 4200 Pine Street
 Philadelphia, PA 19104



keeping up

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K. K. Jayaraman, M.D., and W. Klugh, Jr., M.D., Hot Springs. Sponsored by St. Joseph's Mercy Medical Center, Hot Springs. Red Room (Third Floor Conference Room) St. Joseph's, Hot Springs. *TUESDAY, SEPTEMBER 5, 1978, 12:30 P.M.* (Luncheon). One hour Category I credit. Open to all physicians. \$10 registration fee. No fee for St. Joseph's medical staff members.

"BASIC MULTIDISCIPLINARY POSTGRADUATE PSYCHIATRIC SEMINAR"

Dr. Robert Matthews, Program Director. Sponsored by the University of Arkansas College of Medicine Department of Psychiatry and Office of Continuing Education for Physicians. U.A.M.S. Education Building II, Room 141 A and B, in Little Rock. Each *THURSDAY, SEPTEMBER 7 THROUGH NOVEMBER 30, 1978, 7:00 P.M. to 10:00 P.M.* Forty-two hours Category I credit. Open to all physicians. Registration fee \$75.00. Toll free information: 1-800-482-5578.

"SHOCK"

Dr. Watts Webb, Professor of Surgery, Tulane University School of Medicine, New Orleans, Louisiana. Sponsored by Baptist Medical Center. Shuffield Auditorium, Baptist Medical Center, Little Rock. *SATURDAY, SEPTEMBER 16, 1978, 8:00 A.M. to 12 Noon.* Four hours Category I credit. Open to all physicians. No registration fee.

"ADVANCED MULTIDISCIPLINARY POSTGRADUATE PSYCHIATRIC SEMINAR"

Dr. Robert Matthews, Program Director. Sponsored by the University of Arkansas College of Medicine, Department of Psychiatry and the Office of Continuing Education for Physicians. U.A.M.S. Educational Building II, Room 104, in Little Rock. Each *THURSDAY 7:30 to 10:00 P.M., SEPTEMBER 21 THROUGH DECEMBER 14, 1978.* Prerequisite: "Basic Multidisciplinary Postgraduate Psychiatric Seminar". Twenty-four hours Category I credit. Open to all

physicians. Registration fee \$125.00. Toll free information: 1-800-482-5578.

"NEW DEVELOPMENTS IN THE ENDOCRINE SYSTEM"

Dr. Ben N. Saltzman, Program Director. Sponsored by the University of Arkansas Medical Sciences Department of Family and Community Medicine, and the Office of Continuing Education for Physicians. U.A.M.S. Education II Building, Rooms 141 A and B, Little Rock. *SATURDAY, SEPTEMBER 23, 1978, 8:00 A.M. to 5:00 P.M.* Seven hours of Category I credit. Open to all physicians. \$35.00 registration fee. Toll free information: 1-800-482-5578.

"TECHNIQUES IN CARDIOPULMONARY RESUSCITATION"

Dr. K. K. Jayaraman and Dr. W. Klugh. Sponsored by St. Joseph's Mercy Medical Center in Hot Springs. Red Room (Third Floor Conference Room), St. Joseph's, Hot Springs. *TUESDAY, OCTOBER 3, 1978, 12 Noon* (Luncheon). One hour of Category I credit. Open to all physicians. \$5.00 registration fee; no fee for St. Joseph's medical staff members.

"PEDIATRIC UPDATE — 1978"

Dr. Robert Fisher and Dr. Neil Sims, Program Directors. Sponsored by the University of Arkansas Medical Sciences Department of Pediatrics and the Office of Continuing Education for Physicians. Arkansas State Hospital Auditorium, in Little Rock. *8:00 A.M. to 5:00 P.M. FRIDAY, and 8:00 A.M. to 12 Noon on SATURDAY, OCTOBER 6 and 7, 1978.* Ten hours of Category I credit. Open to all physicians. Fee has not been established at this time. Toll free information: 1-800-482-5578.

"MANAGING YOUR SUCCESSFUL MEDICAL PRACTICE"

Dr. Neil Sims, Program Director. Sponsored by the University of Arkansas Medical Sciences and the Office of Continuing Education for Physicians. U.A.M.S. Building II, Rooms 141 A and B,

As organizations accredited for continuing medical education by the Liaison Committee on Continuing Medical Education, the organizations named certify that these continuing medical education activities meet the criteria for the credit hours specified in Category I of the Physician's Recognition Award of the American Medical Association.

in Little Rock. *SATURDAY, OCTOBER 14, 1978, 8:00 A.M. to 5:00 P.M.* Seven hours of Category I credit. Open to all physicians. Registration fee \$50.00. Toll free information: 1-800-482-5578.

"THE PHYSICIAN AND THE SUICIDAL PATIENT"

Dr. Robert Matthews, Program Director. Sponsored by the Arkansas Branch of the American Psychiatric Association, Veterans Administration Hospital in Little Rock, and the University of Arkansas Medical Sciences Office of Continuing

Education for Physicians. Hilton Inn at University Avenue and Wilbur Mills Expressway, Little Rock. *FRIDAY, OCTOBER 27 to 29, 1978.* Registration 5:00 P.M. October 27th, keynote address 8:00 P.M. to 9:00 P.M.; program Saturday October 28 8:00 A.M. to 5:00 P.M., Sunday October 29 9:00 A.M. to 1:00 P.M. Ten hours of Category I credit. Open to all physicians. Registration fee is \$50.00. Toll free information: 1-800-482-5578.



P E R S O N A L A N D N E W S I T E M S

BOONE COUNTY AWARDS SCHOLARSHIP

The Boone County Medical Society and the District Six Registered Nurses Association presented Miss Melissa Neill of Pyatt with a full scholarship to Aldersgate Medical Camp. The camp is located in Little Rock and offers specific sections for children with spina bifida, diabetes, orthopedic handicaps, lung disease, and other general medical handicaps.

DISTINGUISHED ALUMNUS AWARD

The University of Arkansas College of Medicine's Caduceus Club Alumni presented Dr. B. G. (Gil) Brogdon with their Distinguished Alumnus Award during their annual banquet recently. Dr. Brogdon graduated in 1952, and is a native of Fort Smith. He is the Professor of Radiology at the University of South Alabama College of Medicine in Mobile, and is also the President of the American College of Radiologists.

DR. REDDICK RECOGNIZED

Dr. Eddie J. Reddick, a graduate of the University of Arkansas College of Medicine, was named the United States Army Flight Surgeon of the Year at the annual meeting of the Aerospace Medical Society. The award is presented annually by the Society of United States Army Flight Surgeons to the surgeon who best typifies the Society's ideals of unselfish dedication to the medical needs of the Army aviator, his family, and to the advancement of aviation safety. Dr. Reddick is a native of Jonesboro and is currently

a resident in General Surgery at Riplia Army Medical Center in Honolulu, Hawaii.

PHYSICIANS HONORED

Sixteen Hot Springs physicians were recently presented Certificates of Appreciation by the Arkansas Rehabilitation Association for their services to the handicapped citizens of the Hot Springs Rehabilitation Center. Those honored were Drs. Ronald J. Bracken, Thomas E. Burrow, Thomas M. Durham, Richard F. Graham, Jerry L. Hoyt, Robert L. Lewis, Robert H. Millwee, III, DuBose W. Murray, Stuart B. McConkie, Hallman E. Sanders, Kenneth A. Seifert, M. Richard Springer, William Y. Springer, Wallace A. Thomas, H. King Wade, Jr., and Thomas R. Wallace.

DR. HAYES ELECTED

Dr. Harry Hayes, Jr., of Little Rock was elected to serve for two years as President of the Canadian American Medical Dental Association. Dr. Hayes previously served as a member of the Board of Directors. He specializes in Plastic Surgery and is a member of the American College of Surgeons, Royal Society of Medicine of England and the Southern Surgical Congress.

DR. IRWIN ELECTED

Dr. Peter J. Irwin of Fort Smith was recently elected vice president and president-elect of the Mid-Central States Orthopaedic Society. Dr. Irwin was elected to this position at the twenty-fifth annual meeting of the Society held at Grand

Lake, Oklahoma, June 8-11, 1978. Dr. Irwin is associated with Holt-Krock Clinic in Fort Smith.

DR. BROWN RELOCATES

Dr. Charles H. Brown has joined Dr. Robert A. Bell in the practice of Urology in Russellville. Dr. Brown formerly practiced in Camden.

DR. APPLGATE SPEAKER

Dr. Stanley Applegate of Springdale recently presented slides of his two month missionary journey made to the jungles of Costa Rica a year ago. Dr. Applegate made the trip in connection with an evangelical missionary organization representing a variety of denominations. The presentation was made to the public at the Wesley United Methodist Church in Springdale.

DR. PATTERSON NAMED TO BOARD

Dr. Jack Patterson of Clarksville was recently elected to the Human Services Center of West Central Arkansas as a member of the Board of Directors. He will serve as a representative of Johnson County.

DR. MCGREW TO GURDON

Dr. Gary L. McGrew recently moved to Gurdon

where he will begin Family Practice. Dr. McGrew was stationed in Savannah, Georgia, with the United States Army. He is a graduate of the University of Arkansas College of Medicine.

PHYSICIANS RECEIVE CERTIFICATION

Dr. Rick Martin of Greenwood recently received his certification from the American Board of Family Practice. Dr. Scott Fergus of Osceola and Dr. Nathan E. Strickland of Batesville were recently certified by the American Board of Surgery.

DR. TAYLOR LOCATES

Dr. George W. Taylor, III, has joined the Clarksville Medical Group in General Practice. Dr. Taylor is a native of Clarksville and a graduate of the University of Arkansas College of Medicine.

DR. LOWE ASSISTS IN PROGRAM

Dr. Betty A. Lowe of Little Rock recently participated in a presentation on "Pediatric Pulmonology" on KARK-TV, Little Rock. Dr. Lowe is the Medical Director of Arkansas Children's Hospital in Little Rock.



NEW MEMBERS

DR. ROBERT W. ASPELL

Dr. Robert W. Aspell has been accepted into the membership of the Garland County Medical Society. Dr. Aspell is a native of Chicago, Illinois. He received his B.S. degree from Marquette University, Milwaukee, Wisconsin, in 1965. In 1972, Dr. Aspell was graduated from the University of Arkansas College of Medicine. He completed his internship at the Medical Center in Columbus, Georgia. From 1973 until 1977, Dr. Aspell was in Urology residency training at the University of South Florida Medical School in Tampa. Dr. Aspell specializes in Urology at 304 Saint Louis, Hot Springs.

DR. CRAIG J. BROWN

The Washington County Medical Society has accepted Dr. Craig J. Brown as a resident member. Dr. Brown is a native of Fayetteville and received his pre-medical education at the University of Arkansas. He was graduated from the University of Arkansas College of Medicine in 1977. Dr. Brown served his internship at Baptist Mission Hospital in Nalerigu, Ghana, West Africa, and began an Ophthalmology residency at the University of Missouri Medical Center in Columbia, in July 1978. Dr. Brown resides at 2583 Elizabeth in Fayetteville.

DR. PATRICIA R. BROWN

Dr. Patricia Brown has been accepted into the membership of the Washington County Medical Society. Dr. Brown was born in Batesville and received her pre-medical education at State College of Arkansas in Conway. She was graduated from the University of Arkansas College of Medicine in 1976, and received her internship training at the University of Arkansas Medical Center. Dr. Brown has entered residency training in Pediatrics. She resides at 2583 Elizabeth in Fayetteville.

DR. WILLIAM T. HERRING

The Crittenden County Medical Society has

accepted Dr. William T. Herring into its membership. Dr. Herring was born in Little Rock and received his pre-medical education at Baylor University in Waco, Texas. He was graduated from the University of Arkansas College of Medicine in 1964, and served a rotating internship at Baptist Memorial Hospital in Memphis, Tennessee. He remained at Baptist Memorial Hospital for three years of Internal Medicine residency training. Dr. Herring served in the United States Air Force for three years and was stationed in Little Rock and Crete, Greece.

Dr. Herring was in practice in Memphis, Tennessee, for six years prior to locating in Arkansas. He was a voluntary clinical instructor at the University of Tennessee Medicine Out-patient Clinic during that time. Dr. Herring has established his office at 228 Tyler, Suite 305, in West Memphis, where he specializes in Internal Medicine.

DR. A. BRUCE JUNKIN

Dr. A. Bruce Junkin has been accepted into the membership of the Jackson County Medical Society. Dr. Junkin was born in Little Rock and received his B.A. degree from Hendrix College in Conway in 1968. He was graduated from the University of Arkansas College of Medicine in 1971, and received his internship and Family Practice residency training while serving in the United States Navy from 1971 until 1977. Dr. Junkin was a member of the teaching staff at the Naval Hospital in Charleston, South Carolina, from 1974 until 1977. He began private practice in Newport where he is associated with Harris Hospital and Clinic at 1205 McLain Street. Dr. Junkin is a Family Practitioner.

DR. SAMUEL R. TURNER

The Independence County Medical Society has accepted Dr. Samuel R. Turner into its membership. Dr. Turner was born in Columbus, Georgia, and received his B.A. degree from Vanderbilt University, Nashville, Tennessee, in 1948. He was graduated from Vanderbilt University School of Medicine in 1951, and remained at the University Hospital for his internship and Anesthesiology Residency training, which he completed in 1954. Dr. Turner also served as an instructor at Vanderbilt University from 1953 until 1954.

From 1954 until 1978, Dr. Turner was in practice in Tulsa, Oklahoma, and during that time he served as the president of the Tulsa County Medical Society, chairman of the Board of

Trustees of the Oklahoma State Medical Society for three years, and councilor of the Southern Medical Association for five years.

Dr. Turner is an Anesthesiologist and resides at 3085 Alice Drive in Batesville.

DR. ROGER D. SIMONS

The Marion County Medical Society has accepted into its membership Dr. Roger D. Simons. Dr. Simons was born in Bryan, Texas, and received his B.S. degree in 1970 from Baylor University in Waco, Texas. In 1974, he was graduated from the University of Texas College of Medicine in Galveston, and received his Family Practice residency training at St. Joseph Medical Center, Wichita, Kansas.

Dr. Simons began Family Practice in Flippin in November 1977, at 100 Main Place.

DR. DANIEL F. WARD

Dr. Daniel F. Ward is a new member of the Marion County Medical Society. He is a native of Jefferson City, Missouri, and received his A.B. degree from the University of Missouri, Columbia, in 1967, and his Ph.D. degree in 1971. Dr. Ward was graduated from the University of Missouri School of Medicine, Kansas City, in 1974. He completed his internship and residency training in Family Practice at St. Joseph Hospital in Wichita, Kansas. He was an Assistant Pharmacology Professor at the University of Missouri School of Medicine, and had a Fellowship in Neurology at the University of Kansas. Dr. Ward is specializing in Family Practice at 100 Main Place, Flippin.

PULASKI COUNTY INCREASES MEMBERSHIP

The Pulaski County Medical Society has accepted the following physicians into its membership:

DR. HUGH F. BURNETT, who was born in Shawnee, Oklahoma. He received his B.S. degree and his M.S. degree from the University of Arkansas in 1965 and 1967. In 1971, Dr. Burnett was graduated from the University of Arkansas College of Medicine. He interned at Charity Hospital, Tulane University Division, New Orleans, Louisiana, and completed four years General Surgery (1972-1976) and two years Thoracic Surgery at the University of Arkansas Medical Center.

Dr. Burnett specializes in Thoracic and Cardiovascular Surgery at 990 Medical Towers Building, Little Rock, where he is associated with Dr. G. Grimsley Graham.

DR. JOHN M. CARRINGTON, who is a native of Alexandria, Louisiana. Dr. Carrington received his B.S. degree from Centenary College, Shreveport, Louisiana, in 1970, and his M.D. degree from Louisiana State University School of Medicine in 1974. He completed his internship at the University of Arkansas Hospital in Little Rock, and remained at the Medical Center for three years Dermatology residency training, which he completed in 1978.

Dr. Carrington specializes in Dermatology at 2504 McCain Place, North Little Rock.

DR. JOSEPH M. GETTYS, JR., who is a native of Richmond, Virginia. Dr. Gettys received his B.S. degree from Presbyterian College, Clinton, South Carolina, in 1967. He was graduated from Emory University School of Medicine, Atlanta, Georgia, in 1971, and remained at Emory University Affiliated Hospitals for his internship, three years Radiology residency training, and a fellowship in Neurovascular Radiology, which he completed in 1978. He was an associate professor of Radiology at Emory University during his fellowship. Dr. Gettys is certified by the American Board of Radiology. He specializes in Radiology at 1100 Medical Towers Building in Little Rock.

DR. J. PRESLEY JACKSON, who was born in Frederick, Oklahoma, and received his B.S. degree in chemistry from Tulane University, New Orleans, Louisiana, in 1968. In 1972, Dr. Jackson was graduated from Tulane University School of Medicine, and also received his M.S. degree in physics from Tulane.

Dr. Jackson interned at Ochsner Foundation, New Orleans, and remained at the Foundation for two years Internal Medicine residency training. He was an assistant clinical professor at Tulane University School of Medicine and Director of the Intensive Care Unit from 1975 until 1976. Dr. Jackson was Director of General Internal Medicine from 1976 until 1978, at Ochsner Foundation Clinic and Hospitals. Dr. Jackson is certified by the American Board of Internal Medicine.

He is associated with the Little Rock Diagnostic Clinic, 10001 Lile Drive in Little Rock, where he specializes in Internal Medicine.

DR. JERRY L. POTTS, who is a native of Banner Elk, North Carolina. Dr. Potts received his pre-medical education at the University of Arkansas in Fayetteville, and in 1971, he was graduated from the University of Arkansas College of

Medicine. He completed his internship training at the University of Arkansas Hospital and remained at the Medical Center for four years Otolaryngology residency training, which he completed in 1978. Dr. Potts specializes in Otolaryngology and has an office at 500 South University, Suite 321, in Little Rock, and also an office at 2504 McCain Place, North Little Rock.

DR. PHILLIP A. TRACY, who was born in Hot Springs. He received his B.A. degree from Hendrix College, Conway, in 1971, and was graduated from the University of Arkansas College of Medicine in 1975. Dr. Tracy served his internship at the University Hospital, Little Rock, and completed three years Family Practice residency training in 1978. Dr. Tracy is a Family Practitioner at 813 Marshall Road, Jacksonville.



O B I T U A R Y

DR. WILLIAM MERLE WOODS

Dr. William Merle Woods of Huntington died June 16, 1978, at the age of sixty-eight. Dr. Woods was born December 15, 1909, the son of the late Dr. and Mrs. George G. Woods. He attended Mansfield High School, received his pre-medical education at the University of Arkansas, and was graduated from the University of Arkansas College of Medicine in 1932. He completed his internship at California Luthern Hospital at Los Angeles and his surgery residency at Clara Barton Hospital in Hollywood, California.

Dr. Woods began practice in Huntington in 1934. In 1942, he joined the United States Army and served as flight surgeon with the 312th Bomb Squadron in North Africa, and the 56th Fighter Group in Europe, during World War II. After his discharge in 1946, Dr. Woods returned to his practice in Huntington, where he practiced until his retirement in 1976.

Dr. Woods had served as chief of staff of St. Edward Mercy Hospital in Fort Smith and was a past-president of the Sebastian County Medical Society. Dr. Woods was a diplomate of the Ameri-

can Academy of Group Practice and the National Board of Medical Examiners. He was also a charter member of the Flying Physicians.

Dr. Woods is survived by his wife, Mrs. Mary Seawel Woods, and two sons, Dr. G. Williams Woods of Houston, Texas, and Jerry Seawel Woods of Fort Smith.

DR. THOMAS L. ADAIR

Dr. Thomas L. Adair of Bald Knob died May 22 at the age of sixty-nine. Dr. Adair was born April 20, 1909, and received his medical degree from the University of Arkansas College of Medicine in 1932. After serving his internship, he began prac-

tice in Bald Knob in 1934, where he remained in practice until his retirement in 1976 due to poor health.

Dr. Adair was a veteran of World War II and was active in civic and social affairs in his community. He was a member of the Bald Knob School Board and had served as president of the board. Dr. Adair was a former mayor of Bald Knob and was a charter member of the Rotary Club, a member of the Chamber of Commerce, and of the First Christian Church. He is survived by his wife, Mrs. Laura Womack Adair; and a daughter, Mrs. Frances Bridges of Bald Knob.



RESOLUTIONS



RESOLUTION

WHEREAS, the members of the Pulaski County Medical Society are deeply grieved at the loss of one of their most esteemed members, Dr. William S. Orr, Jr., and

WHEREAS, Dr. Orr became a member of this Society twenty-eight years ago, and served in countless areas of responsibility, holding the office of President in 1968, and

WHEREAS, he represented this Society for many years as one of our Councilors to the Arkansas Medical Society, and

WHEREAS, Dr. Orr represented organized medicine in a volunteer capacity on a State as well as national level;

BE IT THEREFORE RESOLVED: THAT, this resolution be adopted as a token of our esteem for this valuable member, and

THAT, a copy of this resolution be sent to Dr. Orr's family as an expression of our sincere sympathy, and

THAT, a copy be forwarded to the Journal of the Arkansas Medical Society for publication, and

THAT, this resolution be made a part of the

permanent archives of this Society.

By Direction of the Memorials Committee

T. Duel Brown, M.D., Chairman

Robert Watson, M.D.

Henry Hollenberg, M.D.

June 6, 1978



BOOK REVIEWS

Title: ANNUAL REVIEW OF
NEUROSCIENCE

Editors: Cowan, Hall, Kandel

The *Annual Review of Neuroscience* is a rather advanced book pertaining to neurology, neurochemistry, and neurophysiology, etc. It will be of real interest to the neurologist and neurosurgeon but of limited interest to the practicing physician. It has an extensive bibliography. It contains no illustrations. Perhaps the article of most general interest in the volume is "Circadian Pacemakers in the Nervous System" by Block and Page. Price postpaid: \$17.00 USA and \$17.50 elsewhere.

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The Depressed Elderly Patient: Part I

Diagnosis and Classification

Keong Chye Cheah, M.D.*

Busse and Pfeiffer¹ have written that minor depressive reactions are extremely frequent in old age and that major reactions, often of psychotic proportion, also occur. Gurland² added that while depressive disorders as diagnosed by psychiatrists are most frequent between the ages of 25 and 65 years, milder or neurotic depression shows a peak before age 40 years, while severe depression peaks after that age. He also noted that when symptoms (not necessarily assessed by psychiatrists) rather than diagnosis were the material analyzed the highest rates of depressive symptoms are found in the older age groups above 65 years of age. Levin³ and Goldfarb⁴ also have noted that older people are commonly subjected to depression. Two studies have found 30% depressive persons in the aged population.^{5,6} Goldfarb⁷ and Caird and Judge⁸ also state that depression in the elderly is difficult to diagnose.

In the United States, suicide is a major cause of death with 24,000 suicides recorded each year.⁹ It is estimated that ten times this number attempt suicide. The average United States suicide rate is 12 per hundred thousand and the rate reaches 59 per hundred thousand at age 85.^{10,11} Many clinical studies support the connection between suicide and depressive illness.^{12,13,14,15,16,17,18} Depression is the largest cause of suicide.¹² The success rate of suicide increases with increasing age.¹⁸

The literature on depression is plentiful but the term depression often has a different meaning for different people. The term has been used to describe a symptom, a feeling state, a class of symptoms, a character style, an illness, or a normal response to a loss. The existence of diagnostic dichotomies, namely neurotic-psychotic,

reactive-endogenous, retarded-agitated, unipolar-bipolar, and primary-secondary can further confuse the issue since each term implies a difference in meaning. The Diagnostic and Statistical Manual of Mental Disorder—DSM II¹⁹ has not proven to be adequate to help clarify the field of depression. A draft of DSM III²⁰ with changes is available.

To provide appropriate medical management, it is necessary to recognize and diagnose the condition. It is also necessary to understand the implications of the diagnosis, the factors that influence the course and outcome, and what treatment is available and most appropriate.

The goal of this paper is: (1) to provide information that would help in the recognition and diagnosis of the clinical depressed state in the elderly, and (2) to address the issue of classification and differential diagnosis. A subsequent paper will deal with treatment.

UNCOVERING THE CLINICAL DEPRESSED STATE

A useful approach is to consider the clinical depressed state as one which contains a multi-dimensional complex of signs and symptoms which can be identified. It is important to note that these signs and symptoms are interrelated but can be divided into general headings of (1) appearance and behavior, (2) mood, (3) psychobiological and somatic manifestations, and (4) cognitive function and philosophical outlook. (Table I.) Recognition of the clinical depressed state can be made in a systematic way and this will require an effort on the part of the physician.

1. *Appearance and Behavior*

The features listed under this heading (Table I) may occur singly or in combinations. While sad facies or painful expression is not difficult to recognize, the depressed elderly may just ap-

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pear to be without much expression. It is not uncommon to see a "smile" on the surface with the more "classical" picture underneath.

2. Mood

The dysphoric mood can run the gamut of the

Table I.

Signs and Symptoms of Depression

- I. *Appearance and Behavior*
 - Troubled/Anguished Faces — Painful Expression — Sad Faces — Distraught — Dejected — Without Expression
 - Slump Posture — Face and Shoulder Stoop
 - Occasional Crying/Tearfulness or "Smile"
 - Decreased Activity/Motion — Retarded Speech Pattern (Psychomotor Retardation)
 - or
 - Increased Activity — Repetitive Motion, e.g. Hand-Wringing (Psychomotor Agitation)
- II. *Mood*
 - Dysphoric Mood
 - Discouragement, Worry, Fear, Irritability, Feeling Down in the Dumps, Hopelessness, Despondency, "Blue," Sadness, Depression
 - Apathy
 - Anger
 - Ahedonia
- III. *Psychobiological and Somatic Manifestations*
 - Energy
 - Decreased, Lethargy — Weak — Tired
 - Easy/Constant/Chronic Fatigability
 - Eating
 - Appetite — Decreased, Food Does Not Taste Good, Increased Weight Loss — Increased Sometimes
 - Sleep
 - Disturbed — Decreased, Difficulty Falling Asleep or Early Morning Arising — Increased Sometimes
 - Other Functions
 - Decreased Libido, Decreased Sexual Interest, Impotence
 - Nocturia Without Frequency By Day
 - Constipation or Diarrhea
 - Vague Abdominal Pain
 - Aches and Pains — In Head, Neck, Chest, Back, etc.
- IV. *Cognitive Functions and Philosophical Outlook*
 - Thinking
 - Difficult or Disturbed Concentration
 - Recurrent Thoughts, Worry, Preoccupation
 - Slowed Processing, Indecisiveness
 - Interest
 - Decreased (with mental and physical withdrawal)
 - Decreased Awareness of Self, Others, and Surrounding
 - Outlook
 - Negative Self-concept, self-blame, self-criticism
 - Devalued Self Worth and Image
 - Guilt \longleftrightarrow Self Reproach
 - Gloomy Evaluation of Present and Future
 - Fearful \longleftrightarrow Anger
 - Suicide As Solution
 - (Distorted Perception \longrightarrow Hallucination)

list in Table I. Sadness is the predominant affective symptom in depression of the younger age group, but other feelings often occur in the aged. The elderly will tend to deny a dysphoric mood but may emphasize physical impairments.²¹ Fear, apathy, and anger commonly are seen. Butler and Lewis¹¹ consider anger as a crucial element in most depression. Apathy and disinterest may occur rather than blueness.²² Ahedonia, which means that the patient does "not experience pleasure from anything" . . . "no special thing can give him pleasure", can prevail.²³

3. *Psychobiological and Somatic Manifestations*

Decreased energy level can be elicited but not all elderly patients will volunteer this information. In fact, they may have some ready excuse for feeling tired or easily fatigued. Loss of appetite resulting in weight loss may not be revealed, unless asked about in an empathetic way, because of the fear of losing independence (especially if living alone). The thinking may go like this . . . "if they think I am not eating right, they will make me live in a nursing home." Sleep pattern disturbance, early morning arising, difficulty falling asleep, or even increased sleep (especially in milder cases — a form of withdrawal) can occur. This change in sleep pattern offers an important clue. Information about changes in libido and sexual interest should be sought, even in the elderly patients. These questions should not be avoided because of an assumption that the elderly do not retain interest in this area or because of a wish not to "embarrass" the patient. Again a change in pattern of interest and performance, e.g. impotence, is very important as an indicator of depression. Nocturia without daytime frequency can be another clue.²⁴

Physical symptoms instead of dysphoric mood may be prominent in the elderly. Aches, pains, and abdominal complaints are frequent. Constipation and at times diarrhea may be the problems emphasized by the patient in the initial contact.

4. *Cognitive Functions and Philosophical Outlook*

Thinking ability is hindered by disturbed concentration, preoccupation, withdrawal, and disinterest. Recurrent thoughts occur and often include negative ideations. Not only does thought process become slowed, indecisiveness and distortion can occur. Distortion in a severe form

leads to delusional ideations and this may include nihilistic ones.

The decreased interest is often seen in terms of mental and physical withdrawal. The decrease in interest in oneself shows up in the form of untidy appearance. A decrease in awareness of self and the surroundings also result.

Frequently, negative self-image / regard is prominent. Self-condemnation, self-reproach, and guilt can be elicited. The depressed elderly person may view the future as gloomy and without much hope. Feelings of emptiness, helplessness, and being alone occur. Fear and anger are also frequent and blame may be internally or externally directed. The most serious outcome is suicide. (Always ask a patient who is suspected of having depression if he has suicidal ideations.) Perception can be so severely distorted as to cause hallucinations. This is quite rare but when they occur they are almost always auditory and condemnatory.²²

DEPRESSIVE PSEUDODEMENTIA

The most unfortunate thing that could befall a depressed elderly patient is to be misdiagnosed. They can be wrongly called “senile” or be dismissed as just showing “signs of growing old.” The usual cause of misdiagnosis is either due to incomplete evaluation, e.g. not spending time to take the adequate history or evaluate findings, or having false beliefs of aging. Listed in Tables II and III are symptoms of depression commonly

dismissed as “normal” occurrence in old age or mistaken as an organic brain syndrome.

CLASSIFYING THE DEPRESSIONS

There is more than one type of depression. There are two conditions considered to be normal, namely the feeling state called “the blues”²⁵ and grief reaction or bereavement.^{22, 25, 26, 27} The expected normal, adaptive, reaction to a loss is not a psychiatric disorder. They have similar features to the clinical depressed state. The classification shown in Figure I is an attempt to

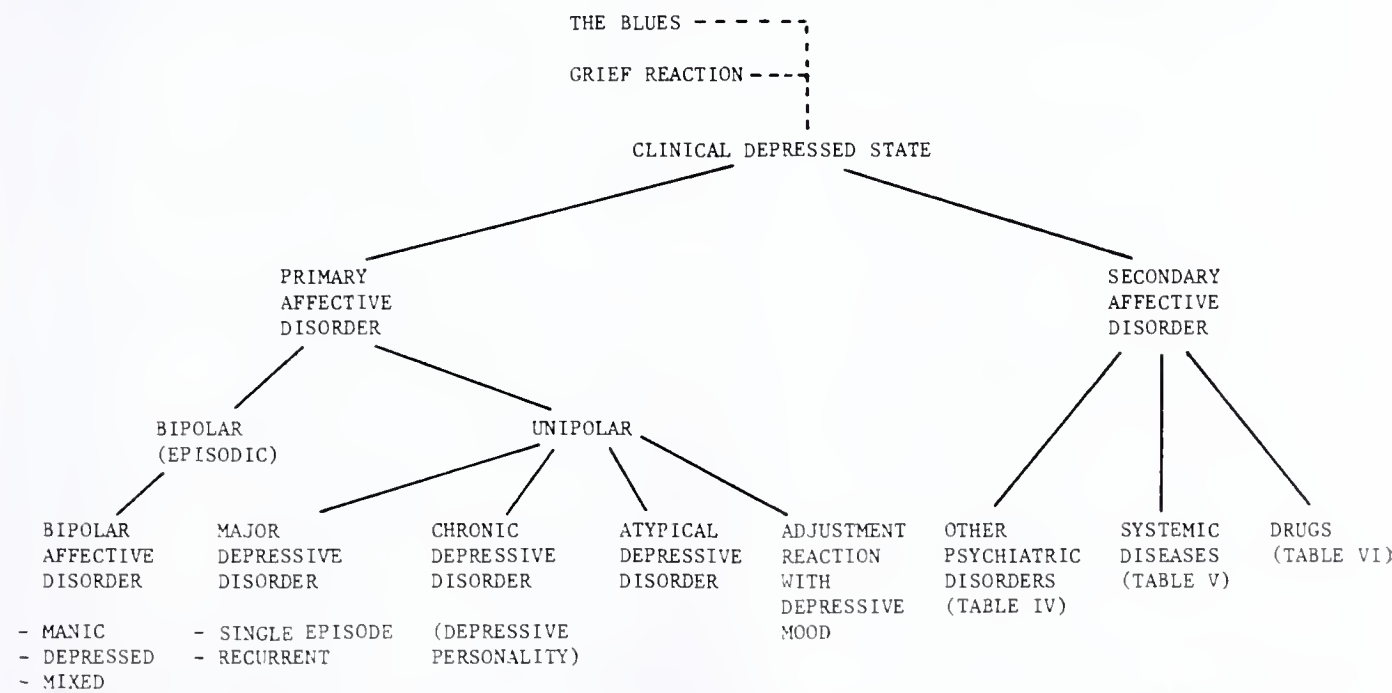
Table II.
Symptoms of Depression Commonly Dismissed As “Normal” Findings of Old Age

Occasional Crying Spells	Loss of Interest (in family, etc.)
Psychomotor Retardation	Sleep Pattern Disturbance
Indecisiveness	Decreased Libido, Impotence
Withdrawal and Preoccupation	G. I. Upset — Constipation
Feeling Lonely	Aches and Pains

Table III.
Symptoms of Depression Commonly Mistaken to Represent an Organic Brain Syndrome (Pseudodementia)

Untidy Appearance	Pseudomemory Loss
Decreased Interest (in self, etc.)	(decreased concentration plus lack of interest)
Psychomotor Retardation or Agitation	Indecisiveness
Difficulty Concentrating	Withdrawal and Preoccupation
	Somatic Complaints with Demands

FIGURE I. CLASSIFICATION AND DIFFERENTIAL DIAGNOSIS OF DEPRESSION



Modified from Klerman, G. L.: Overview of Depression. In: Comprehensive Textbook of Psychiatry — II, A. M.

Freedman, H. I. Kaplan, and B. J. Saddock (eds.), Baltimore, William and Wilkins, 1975.

facilitate better understanding of a complex subject. This hopefully will lead to better management. In applying the classifications, differential diagnoses is the main issue.

1. *The Blues and Grief Reactions*

Everyone is familiar with "the blues" although it may not be experienced by all. The blues is usually short-lived and lasts a few hours to a few days. The manifestations include a degree of sadness, withdrawal, sleep disturbance, and thought preoccupation. Generally, these episodes when they occur do not create significant problems in day-to-day living. However, in the elderly these episodes can become common and recurrent. Those so afflicted report being discouraged, worried, disgusted with their own uselessness, and even to a degree of feeling no reason to live or welcome death if it were a painless one.^{28,29}

Grief reaction or simple bereavement have symptoms that include: sensations of somatic distress; preoccupations with the image of the deceased; guilt feelings with accusations of self for neglecting the deceased; feelings of hostility toward doctors and others charging them with not providing proper care prior to death; and showing restlessness, inability to organize activities or carry on customary pleasures.²⁷ Huston²² has suggested that grief reaction may appropriately be classified as a new illness. He further added that "grief reaction subsides in two to three months and most symptoms are much closer to a traditional concept of neurotic. Yet now and then the boundaries between normal grief and psychotic depression are blurred." In the elderly, grief often persists longer. Further, Winokur³⁰ has written "the normal grief reaction should be of interest to us as a model for the reactive depression." It is noted that when grief is denied expression, depression is a possible reaction.^{21,31} Freud³² believed that when the mourner's focus shifts from the lost person to a preoccupation with his own inadequacies, grief has progressed to a depressive reaction. On the other hand, Huston²² does not feel that loss by death, in itself, is a single sufficient cause for psychotic depressive reaction. Grief reaction is an expected normal reaction but can cause significant disruption of routine activities and present as a clinical state.

In Figure I, the blues and grief reaction have been shown to be related to the clinical depressed

state by dotted lines because the relationship is not clear. It does appear that grief reaction or simple bereavement is related to the Adjustment Disorder with Depressed Mood.²⁰ It also appears that the blues is related to the Chronic Depressive Disorder (Depressed Personality)¹⁹ or Klein's classification of chronic overreactive dysphoria/chronic characterologic dysphoria.^{33,34} The important issue is whether (1) the symptoms lead the individual to see a physician or others felt by him to provide professional help (includes chiropractors, healers, etc.) or (2) if the symptoms are disabling enough to interfere significantly with the individual's usual routine or, (3) if the symptoms have led him to use medications on more than one occasion.

2. *Primary and Secondary Affective Disorders*

Robins and his associates³⁵ have proposed a distinction between primary and secondary affective disorders. Primary affective disorder refers to disorders in individuals who have been well or whose previous episodes of psychiatric disease were mania or depression. Secondary affective disorders occur in mentally ill persons who have had another psychiatric illness. In this proposed classification, the diagnosis is made regardless of the presence or absence of an apparent life stress. Often whether a precipitating event of life stress is present or not depends on the questions asked or how they are asked. Feighner and his associates³⁶ have included this classification in their proposal of diagnostic criteria in psychiatry. They also noted, "it will be apparent below that certain diagnoses are mutually exclusive (primary affective disorders and schizophrenia), while others may be made in the same patient (antisocial personality disorders with alcoholism or drug dependency; hysteria or anxiety neurosis with secondary depression)."

The classification presented in this paper (Figure I) is a modification and expansion of the above proposal and includes ideas by others (Schuyler,²⁵ Klerman,³⁷ Klein^{33,34}). By following this classification it is hoped that studies of natural history will permit prediction of course and outcome, allowing planning for both immediate and long-term treatment, and make communications possible between physicians.

a. *Secondary Affective Disorder*

It is easier to approach the secondary affective disorder first. This subdivision would include the depression/depressive symptom complex

which is a direct manifestation of other disorders. (Figure 1.) The disorders that may include associated depression consist of (a) the other psychiatric disorders (Table IV), (b) the systemic disease (Table V), and (c) drugs (Table VI).

b. *Primary Affective Disorder*

The primary affective disorders include the bipolar and unipolar disorders.³⁸ The "bipolar" indicates recurrent episodes of depression with at least one attack of mania. The initial attack, whether mania or depression, usually occurs in

the third decade of life. Unipolar depression implies that the patient has suffered a single or recurrent episode of depression. As previously stated, this diagnosis can be made irregardless of an identifiable life stress. It is also clear that the degree of severity is not a condition for inclusion or exclusion from this diagnosis.

The DSM—III Draft²⁰ (Figure 1) classifies (unipolar) depressions under the Major Depressive Disorder, The Chronic Depressive Disorder (Depressive Personality), the Atypical Depressive Disorder and the Adjustment Disorder with Depressed Mood. The Major Depressive Disorder features usually, not invariably, episodic periods of illness in which a sustained disturbance in mood distinguishes from previous functioning. The term "chronic" indicates a long-standing (over two years) illness without clear onset. The depressed mood and related symptoms may be sustained throughout the period or be intermittent but "normal periods" do not last over two months. The symptoms in the Chronic Depressed Disorder are less severe (not psychotic). The individuals with Chronic Depressive Disorder (Depressive Personality) can have a superimposed Major Depressive Disorder. The Atypical Depressive Disorder is made when the criteria for Major Depressive Disorder, Chronic Depressive Disorder or Adjustment Disorder cannot be met; in the absence of psychosocial stressor. For example it may fulfill the criteria for Chronic Depressive Disorder except when intermittent periods of normal mood last more than two months. A diagnosis of Adjustment Disorder is made when a maladaptive change in functioning occurs as a reaction to a psychosocial stress. The maladaptation is either in occupational or social functioning or that the symptoms are in excess of expected (normal) reaction to the stress. This class for example does not include the grief reactions.

It takes "brain power" to become depressed. Many patients with mild, and mild to moderate degrees of organic brain syndrome retain "brain power" to become depressed. Co-existing conditions can and do occur in the elderly, although we must be aware that other psychiatric disorders or medical illness, and drugs, have associated depressive symptoms as part of their process or as side effect. Do note that alcohol abuse or drug overuse in the elderly may be a symptom of the clinically depressed state rather than a cause of

Table IV.
Preexisting Psychiatric Conditions That May Preclude Diagnosis of Primary Affective Depression

Schizophrenia	Hysteria	Sexual Orientation
Anxiety Neurosis	Alcoholism	Disturbance
Phobic Neurosis	Drug Dependency	Sexual Deviation
Obsessive-Compulsive Neurosis	Anti-Social Personality	Mental Retardation
		Organic Brain Syndrome

Feighner, J. P., Robins, E., Guze, S. B., et al.: Diagnostic criteria for use in psychiatric research, Arch. Gen. Psychiat. 26:57-63, 1972.

Note: Psychiatric conditions can co-exist.

Table V.
Organic Diseases Commonly Associated With Depressive Symptoms

Infectious Disease	Endocrine Disorders	Other Disorders
Brucellosis	Addison's Disease	Anemias
Hepatitis	Cushing's Syndrome	Arthritis
Pyelonephritis	Diabetes Mellitus	Meniere's Disease
Subacute Bacterial Endocarditis	Hyperparathyroidism	Neoplasias
	Hyperthyroidism	Nutritional Deficiencies
	Hypothyroidism	Parasitic Infections
	Simmond's Disease	Uremia

Kiev, A.: Depression as a treatable illness, Part I. Drug Therapy 5 (3):67-75, 1975.

Table VI.
Drugs Which May Have Depression As Side-effect

ACTH	Cycloserine	Norepinephrine
Alcohol	Digitalis	Progesterone
Amantadine	Epinephrine	(including synthetics)
Amphetamines	Estrogen (including synthetics)	Propranolol
Barbituates	Indomethacin	Reserpine
Bromide	Levodopa	Succinimide — Derivative
Carbamazine	Methyldopa	Anticonvulsants
Cortisone (including synthetics)	Methylsergide	Sulfonamides

Kiev, A.: Depression as a treatable illness, Part I. Drug Therapy 5 (3):67-75, 1975.

Table VII.
Drugs Which May Have Depression As Side-effect

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Cortisone (including synthetics)	Methylsergide	Sulfonamides

Kiev, A.: Depression as a treatable illness, Part I. Drug Therapy 5 (3):67-75, 1975.

depression. An alcoholic who manages to live to old age is a different individual from an elderly person who starts drinking to excess for the first time.

OTHER REMARKS

Many psychiatrists use the terms reactive and neurotic depression interchangeably. This statement applies as well to the terms endogenous and psychotic depression. The terms are not synonymous. The term "psychotic" or "with psychosis" is best used to describe a patient whose mental functioning is sufficiently impaired as to interfere grossly with his capacity to meet the ordinary demands of life. The impairment may result from a serious distortion in his capacity to recognize reality and from the presence of delusions and hallucinations, which distort perception. Alterations of mood may be so profound that the patient's capacity for mental grasp of his situation is effectively lost.¹⁸

The "neurotic depression" implied no gross distortion, or misrepresentation, of external reality nor evidence of gross personality disorganization. Thus "moderate," "marked," or "severe" and "non psychotic" or "psychotic" as a descriptive term following the diagnosis of depression will be more appropriate and helpful.

The term "reactive" in "reactive depression" implies the presence of a precipitating event. Although in the past this has been associated with mild symptoms, recent evidence indicates that environmental stressful events do precede serious depressions.^{39,40} This issue has been taken up above. The term endogenous literally means "arising from within." The accepted features of endogenous depressions had been: (1) the absence of precipitating events, (2) the predominance of somatic (vegetative) symptoms, and (3) both 1 and 2. Other clinical features included were: (1) psychomotor retardation, (2) "severe" degree, (3) lack of reactivity (response) to environmental changes, (4) loss of interest in life, (5) visceral (physical) symptoms, (6) weight loss, (7) early morning awakening, (8) guilt, and (9) suicidal behavior. The syndrome meets the criteria for the diagnosis of Major Depressive Disorder. Bellak⁴¹ maintains that a precipitating event can be identified in most depressive illness.

Involucional melancholia has been used to label a depressive state of psychotic proportion which occurs during the period of decline in

physiological functioning marked by menopause in the female (40-45) and by the climacteric in the male (50-60). Many, like Rosenthal,⁴² believe that there are no singular features that distinguish the depressions occurring in this so-called involucional period of life from those occurring in other ages. The symptom complex meet the criteria for a diagnosis of Major Depressive Disorder.

SUMMARY

Depression is a frequent finding in the elderly, but may be missed. A systematic approach to diagnosis and classification (with inclusion of differential diagnostic features) has been presented. A brief look at the more traditional diagnostic categories has also been made.

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The Depressed Elderly Patient: Part II, Treatment

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The primary physician is in a unique position to assume the responsibility for the treatment of depression in the elderly since he is often the first professional person approached for help. It is not that common to find in old age a purely psychiatric case. Many depressed elderly patients present with an aggravation of a pre-existing medical condition.¹ Often, the patient may treat himself with over-the-counter vitamins or tonic to get more pep, or laxative to get rid of constipation, or analgesics for aches and pains. He may turn to his physician for such relief. An elderly person may also seek out his physician with physical complaints because he does not know how else to cry for help.²

GENERAL ASPECTS

The uncovering of depression is only the first step.³ The management of the depressed elderly patient requires the art and science of medicine. A commitment to treat the elderly will require patience and a willingness to continually re-evaluate and monitor the effect of treatment. The depressed elderly patient will need more than a "howdy do" or "how are you." An older person's more cautious approach to new changes or new ways of looking at things could be misinterpreted as resistance, stubbornness, or unwillingness to cooperate. He may already have faced real losses in physical vigor and stamina;⁴ a decline in mental agility;⁵ a decline in income due to retirement (more than a 50% drop from previous levels for many);⁶ loss of a significant role provided by active employment, or as the major bread winner; and loss of friends or loved one — the most significant being loss of a spouse. The physician may be singled out to provide reassurance and support because he is viewed as a source of authority, knowledge, and trust. These qualities, in the source of help, are important in the face of fear.

In this paper some aspects of treatment are considered at some length while other aspects are not. It is the purpose of this paper to provide adequate information to be utilized as a quick source of reference in the treatment of the depressed elderly patient.

TREATMENT APPROACHES

In the literature you will find some who question the usefulness of psychotherapy in the treatment of depression. These are extreme and restrictive positions. Part of the reason for such differing views is the diversified conditions labeled as depression. Furthermore, the evaluation of effectiveness of treatment is complicated by spontaneous remission from the depressed state. The less severe forms of depression tend to recover more rapidly, to remit spontaneously, and respond to psychotherapy, sedatives, anti-anxiety medications, stimulants, or to nonspecific treatments including placebo and antidepressants.⁷

The treatment approaches include: a) "people therapy" (psychotherapy and counseling); b) drug therapy; and c) electroconvulsive therapy. Hospitalization is an option in treatment but usually includes one or more of the above approaches.

A. People Therapy

People therapy, which includes various forms of psychotherapy and counseling, is well suited in the treatment of less severe depression. It can also be used in conjunction with other approaches in the more severe cases. Psychotherapy and drug therapy are highly compatible and synergistic.

The mildly depressed patients are easier to get involved in "talking" therapy. The severely depressed do benefit from psychotherapy although in-depth or confrontative approaches should not be used initially.

The elderly person should be encouraged to re-establish or replace sources of loss. He should be encouraged to maintain and improve satisfying human contact (social clubs, church groups, retired persons' associations, volunteer groups, foster grandparent programs, etc.). Do note that initial contact with persons of the same age group may bring about a further depressing effect but after discovering common interests and problems in others he may see himself as less deprived.⁸ It is very necessary to provide adequate support throughout treatment but this is crucial in the initial stages. While it is good to maintain and regain activities, the "keep busy" hobbies and activities are unsatisfactory. These activities should provide a sense of usefulness and produc-

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tiveness. They should be a source of pride, a source to gain appropriate attention from others, and provide self-image enhancement. By being involved in such interests, he not only hastens recovery; but by keeping these interests, he forestalls depressive episodes.

It is important to listen to the patient's wish when considering involvement of the family but involvement of the family is important. Family members can be a source of support and understanding. They may have false ideas about the process of depression and may also need educating and guidance about the aging process. Involving the family can often reduce strife within the family.

The physician, by showing interest and attention to the patient's problems, can instill new feelings of hope and self-worth. Effective psychotherapy, including supportive therapy, can only be provided by someone perceived by the patient to possess ability, knowledge, strength, concern, etc., i.e. someone who is "potent" since adequate help cannot be provided by a weak person. The physician, psychologically and otherwise, already occupies a position of strength.

The other two major elements of effective psychotherapy involves "protection" and giving him permission to have hope, try new ways, and plan to have a future. The physician provides protection by anticipating the effects of therapy and of suicide. He also does so by not going into unnecessary or inappropriate confrontations or expectations. Hospitalization, when not placed in the form of a threat or as a punitive measure, is protection. The patient being allowed and shown that direct verbal expressions of feelings (such as anger) is alright, involves the process of permission. Potency, protection, and permission are interrelated. The physician as a potent person, protects and provides care while imparting the knowledge to the patient that depression is treatable and recovery is expected. He further reaffirms this by accepting the patient despite the patient's rejection of him if it occurs.

Psychotherapy can effectuate changes in attitudes, feelings, behavior, life style, or to help see possibilities of new options, consequences and outcomes instead of having thoughts and actions that perpetuate sadness.

B. Drug Therapy

A number of psychotherapeutic drugs have been introduced since the 1950's. Psychotropic

drugs are effective and important tools in a physician's armamentarium. We do not want to withhold effective medication to cause the depressed elderly unnecessary or prolonged suffering, but we need to note that medication is not uniformly effective in all cases of depression.^{7,9} Also, prescribing medication should not be the automatic reaction whenever depression is recognized since in some forms, medications do no better than a placebo.¹⁰

It is recognized that the patients who could benefit from antidepressant medications are those with vegetative (somatic, bodily) symptoms involving sleep, eating, bowel disorders, and weight loss. Those patients who have massive loss of interest and loss of pleasure with unresponsive (postulated) pleasure mechanisms and thus cannot experience pleasure from current sensory cues or by anticipatory or recollective imagery, do well on antidepressant drug treatment.^{10,11} The patients who chronically overreact to disappointments with anger, dysphoria, and demoralization but maintain a capacity for pleasure and interest do not respond well to medication. Those patients who show sudden dysphoria in the face of disappointment or stress do not generally need antidepressants since they respond equally well to placebo.^{10,11} The symptoms such as being blue, loneliness, hopelessness, worry, low in energy, self-blame, crying, or feeling tense are not good criteria to guide when to use medications. The reason being that all types of depressions bring about a decreased ability to anticipate future positive reinforcement and a secondary demoralization.

When medication is indicated in the elderly, the rule should be "start low" and "go slow," i.e. start at much lower than "normal adult dose" and titrate upwards. A predetermined, fixed, regimen even with modified lower doses to fit all patients should be discouraged. The elderly do usually respond to smaller doses but occasionally there are those who will need the young adult doses. By titrating and monitoring both the therapeutic and side effects, one can obtain maximal benefits with minimal deleterious consequence to the patient.

The older person has changes that will affect chemotherapy.^{12,13} Absorption from the gastrointestinal tract is decreased due to fewer active cells, changes in enzyme activity, and decreased blood flow. This can cause dose buildup and

overshoot optimal dose to toxic level, if not noted. The ratio of fatty tissue to parenchymal tissue is increased. This can result in relatively greater absorption, greater retention, higher concentration, and longer periods of action of lipid-soluble drugs. Liver microsomal enzyme action is decreased and leads to higher plasma and tissue levels of unaltered drugs. Renal blood flow and glomerular filtration rate are decreased. This leads to decreased rate of elimination.

It is also known that the same dose of antidepressant given to different individuals shows a wide variation in plasma concentration — studies show a three-fold to thirty-six fold range.^{14,15,16,17,18} So individual plasma levels cannot be predicted on the basis of prescribed dose alone. There also appears to be a curvilinear relationship between plasma levels and chemical response in studies with the secondary amine tricyclic antidepressants (nortriptyline, desipramine, and protriptyline).^{14,19,20,21,33} These studies suggest a therapeutic window for plasma concentrations which means that plasma concentration below or above this therapeutic window leads to decreased clinical response. One study with a tertiary amine tricyclic (imipramine) showed this same result²³ but eight other studies did not.²⁴

Also note that the rule for giving the entire daily dose at bedtime should not be automatically applied in the elderly patient. The peaking drug level and thus side effect may be poorly tolerated. His ability to tolerate a particular dose at any one time needs to be evaluated. This does not mean automatically giving up a single bedtime dose or using a larger of split doses at bedtime to take advantage, for example, of sedative side effects or to decrease side effects during waking hours.

The drugs that have been used to treat depression include: a) antidepressant drugs — 1. tricyclic antidepressants (TCA); 2. monoamine oxidase inhibitors (MAO-I); b) antipsychotic drugs; c) lithium salts; d) antianxiety drugs; e) stimulant drugs; and f) amino acids. (Table I.)

Their efficacy in treating depression in the elderly will be discussed below.

a) Antidepressant drugs

Evidence has been developed over the past two decades to indicate biochemical abnormalities in depressive illness. The biogenic amines, which act as chemical messengers between neurones in

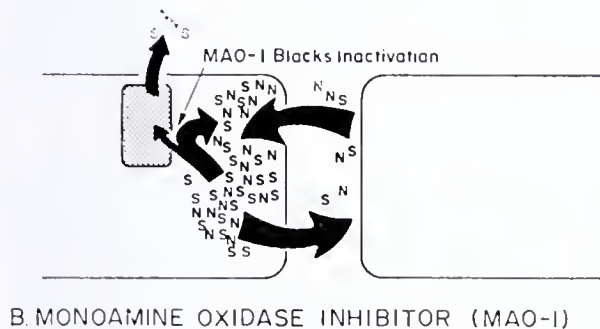
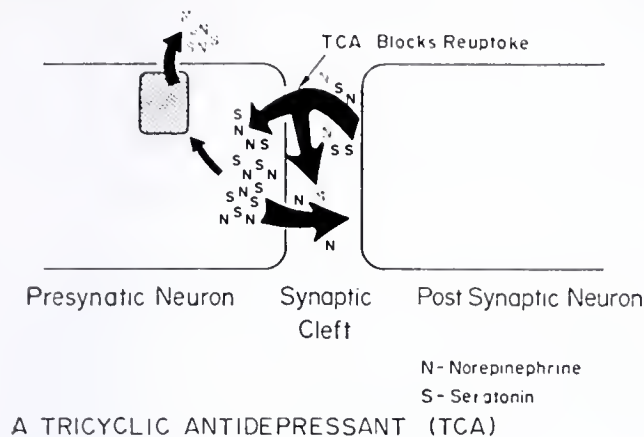
the central nervous system, have been implicated as having the main role in depressive illness. The early evidence led to the proposal of the "catecholamine hypothesis,"²⁵ with norepinephrine having the primary role. Later evidence implicated both serotonin (an indoleamine) and norepinephrine and led to the "permissive hypothesis."^{26,27} This hypothesis is that central nervous system synapses mediating mood are catecholaminergic but are modulated by serotonin. A reduced store of serotonin (a deficit in indoleamine transmission) allows a low concentration of norepinephrine to produce depressive symptoms and a high concentration of norepinephrine to produce manic symptoms.

The action of the antidepressants, as postulated, is illustrated in Figure I. This illustrates that the presumed deficiency in neurotransmission is rectified by blocking the reuptake of norepinephrine and serotonin at the presynaptic membrane (action of TCA) or by inhibiting their intraneural breakdown (action of MAO-I.).

Table I.
Drugs Which Have Been Used To
Treat Depression*

<i>Antidepressant Drugs</i>
Tricyclics — sedating
Amitriptyline (Elavil)
Doxepin (Sinequan)
Tricyclics — nonsedating
Imipramine (Tofranil)
Desipramine (Norpramin, Pertofrane)
Nortriptyline (Aventyl)
Protriptyline (Vivactil)
MAO — Inhibitors
Hydrazine
e.g. Phenelzine (Nardil)
Non-hydrazine
e.g. Tranylcypromine (Parnate)
<i>Antipsychotic Drugs</i>
Phenothiazines
Thioridazine (Mellaril)
Perphenazine (Trilafon)
<i>Lithium Salts</i>
Lithium carbonate
<i>Antianxiety Drugs</i>
Benzodiazepines
Diazepam (Valium)
Chlordiazepoxide (Librium)
<i>Stimulant Drugs</i>
d-Amphetamine
Methylphenidate
<i>Others</i>
1-Tryptophan
1-Dopa
*Refer to text for efficacy.

(Fig 1) ACTION OF ANTIDEPRESSANTS ON NERVE ENDINGS IN THE BRAIN



1. Tricyclic antidepressant (TCA) drugs.

The prototype of the TCA is imipramine (Tofranil). Its effects were discovered by Kuhn.²⁸ The TCAs have been in use since 1958. They have two benzene ring joined through a seven member ring, and thus the name tricyclic. The other TCAs are amitriptyline (Elavil), doxepin (Sinequan), desipramine (Norpramin, Perto-frane), nortriptyline (Aventyl), and protriptyline (Vivactil). There is no conclusive evidence to show that one is more effective than another but it is clear that all are more effective than placebo.^{7,29} The demethylated metabolites of imipramine and amitriptyline, namely desipramine and nortriptyline, do not have more rapid onset than their parent compounds.^{7,29,30} Nortriptyline may be more potent (or toxic) than amitriptyline and protriptyline more than either but its overall efficacy is thought to be no greater than the other TCAs.⁷

The side effects of TCAs are in the main extensions of their pharmacological activities. Dry mouth, sweating, and ophthalmologic signs (mild mydriasis, some degree of cycloplegia with blurred near vision secondary to impaired accommodation) are due to anticholinergic effects. These are generally not dangerous but can be annoying. Some degree of tolerance does develop. Although candy and mild mouth washes

have been recommended to offset decreased salivation, overuse of candy can lead to moniliasis. Confused patients may have excessive water intake and develop water intoxication.

Glaucoma can be induced and tonometry will be needed to monitor at risk patients. Constipation, paralytic ileus, delayed micturition and urinary retention can occur.^{7,9} Extra care is needed when the drugs are used in elderly patients with prostatic hypertrophy and prostatism.

Orthostatic hypotension (especially in the first few weeks of treatment), cardiac arrhythmias, sinus tachycardia and prolonged conduction can occur.^{7,9} Although rare, pulmonary emboli, myocardial infarction, and congestive heart failure have been reported.⁹ Neurological and central nervous system symptoms such as tremors, nystagmus, muscle twitching, paresthesias, impaired memory, ataxia, confusion, delirium, and hallucinations have been reported.⁹ Skin sensitivities also have been reported.

TCAs may lower seizure threshold and block the antihypertensive action of guanethidine. Although early work suggested that doxepin may have less blocking on guanethidine this has not proven to be so in men who receive the full doses.³¹ Norpramin⁷ and doxepin³² have been reported to be less anticholinergic than the others. In one study doxepin did not have the adverse effect on arterioventricular conduction as did imipramine, amitriptyline and nortriptyline — HV interval prolongation and widening of the QRS complex.³³ Amitriptyline and doxepin are more sedating than the rest.

TCAs should not be given to patients who are: 1) in the recovery period of a heart attack, 2) sensitive to the drugs, and 3) within two weeks of discontinuation of a MAO-I.¹⁰

The therapeutic lag time is 1-4 weeks in younger patients but may be longer in the elderly. When the optimal dose is reached treat until complete remission occurs and then lower the dose down gradually every 7 to 14 days to a maintenance level (about half therapeutic dose). Maintenance dose should be kept 4-6 months and then gradually decreased until completely off. If one TCA does not work after adequate trial, switch to a different one or you may consider the use of MAO-I. (Note waiting period if going to MAO-I.)

2. Monoamine oxidase inhibitors.

The monoamine oxidase inhibitors (MAO-Is)

are either hydrazines or nonhydrazines. (Table I.) They are less effective than TCA.^{7,34} It has been postulated that MAO—Is may be more effective in some cases of depression in the elderly because MAO activity in the brain increases in the elderly while the biogenic amines decrease.³⁵ This speculation does not change the toxicity of these drugs. They are hepatotoxic and have potentiating effect on pressor amines causing hypertensive crisis. If a person on MAO—I eats otherwise innocuous foods or ingests certain amine-activity drugs^{36,37} including TCA³⁸ he is subject to serious toxicity. (Be familiar with accompanying package insert or the Physicians Desk Reference before prescribing it.)

The therapeutic lag time is from one to several weeks. TCA should be considered as first choice of drugs and MAO—I only be tried in cases refractory to TCA.

b) *Antipsychotic drugs*

The antipsychotic agents are primarily used to treat schizophrenia. Thioridazine (Mellaril) has been reported to be effective in treating depression with underlying psychosis and agitation.³⁹ Perphenazine (Trilafon) has been used effectively in combination with TCA in agitated depression.³⁹

The antipsychotics do have side effects. Thioridazine, while less likely to cause extrapyramidal (neurotoxic) symptoms, does have cardiovascular⁴⁰ and anticholinergic side effects. The cumulations of side effects when drugs are used in combination can create great difficulties. For example, the thioridazine-TCA combination may be especially cardiotoxic.⁴¹

c) *Lithium salts*

Cade⁴² was the first to note the usefulness of lithium in terminating manic attacks. Lithium is primarily used in treating mania but may be effective prophylactically in recurrent depression especially the bipolar type.⁴³ It does not protect against nor decrease normal feelings of sadness or unhappiness. It is not effective in treating unipolar, primary affective disorders and will not be considered at length in this paper.

d) *Antianxiety drugs*

The benzodiazepines, diazepam (Valium) and chlordiazepoxide (Librium) are effective anti-anxiety agents. Their effectiveness in the treatment of depression is not convincing and it is known that they are not effective in more severe

depressions.³⁹ It would be a mistake to place them with the truly effective drugs for treating depression in the elderly. While the antianxiety drugs give relief to anxiety which may be part of the symptom complex, it can also stop the patient from receiving (and the physician from prescribing) more definitive and appropriate treatment.

While the benzodiazepines are felt to be relatively safe drugs, they do cause sedation, habituation, aggravation of glaucoma, diplopia, blurred vision, and paradoxical states of excitement. People who use benzodiazepines do develop behavioral and psychodynamic tolerance.⁷ They also have the potential to produce psychological and physical dependence and addiction (though not likely).⁷

e) *Stimulant drugs*

The central nervous system stimulants such as amphetamine and methylphenidate (Ritalin) are psychomotor activators. They are not recommended for treating depression in the elderly. Even those who see a use for them caution that they be used only a short time; usually less than 4-5 days.

In the elderly they often induce an ego dystonic motor agitation. They may cause some mood elevation and psychomotor stimulation but these last a short time and are followed by emotional decline as bad, if not worse, than the original depression.³⁹ They have particularly bad side effects for the elderly depressed in depressing appetite and having effects on the cardiovascular system.

f) *Amino acids*

The amino acids l-tryptophan and l-dopa have been used in research settings to treat depression. Their efficacy has yet to be proved.

C. *Electroconvulsive Therapy*

The use of electroconvulsive therapy (ECT) is not without controversy.⁹ It has been shown to be effective treatment for depression. There are reports that it may be more effective than medications.⁴⁴ Some feel that it is the quickest way to treat high suicidal risk patients and those with severe weight loss who are in a depressive stupor or are severely agitated.^{7,45} There is a higher relapse rate after ECT than drug therapy.⁹

Unilateral ECT (both electrodes are placed on the nondominant side of the forehead) has been recommended for use in the elderly to avoid the

post-treatment confusion or forgetfulness. Unilateral ECT is less effective than bilateral ECT.⁴⁶

Brain tumor and increased intracranial pressure are contraindications to ECT. Kral⁴⁷ has recommended not using ECT in patients who have had a recent myocardial infarction or who have decompensated congestive heart failure.

D. Hospitalization

The decision to hospitalize will be easy if suicide is imminent or if the patient is in depressive stupor, or is severely agitated. In many cases when it is not so clear-cut, evaluation of the disruptive effects of uprooting the patient from his accustomed environment has to be done. There have been reports of high rate of death in elderly people shortly after confinement in mental hospitals—the highest rate occurring among those whose adaptive capacity was impaired by depression.⁴⁸ It appears that preparing the patient psychologically for hospitalization by telling him the reason for this form of protection is important. Repeated reassurance that hospitalization is from empathy, not punitive, and that it is an optimistic and not a pessimistic move is important. The ward milieu and environment⁴⁹ should be considered when choosing where to hospitalize.

SUMMARY

The primary physician is in a unique position to treat depression in the elderly. People therapy and drug therapy have been discussed in some detail, while electroconvulsive therapy and hospitalization have been looked at in less detail. The aim of the paper was to include adequate information to be utilized as a quick source of reference.

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University of Arkansas College of Medicine

"State of the College" Report*

Thomas A. Bruce, M.D., Dean**

"The effectiveness of the teacher must be judged by the things which happen after the student and teacher part company," aphorism of Eugene A. Stead, Professor of Medicine, Duke University.

The 1977-78 academic year of the College of Medicine someday in the future may be said to have been a period of circumferential stress and of furious attempts at adaptation. It also may be said to have been the year when we graduated the best class of students (the hundredth) ever to leave the school, or when we made the most phenomenal progress towards institutional maturation. From whatever perspective, it has been a year of remarkable change and I think we have come through it stronger than might have been expected.

Construction. From the most visible standpoint it has been a year of bothersome physical alterations. We moved into the new Education building (Ed II) in the late Summer of 1977 with no seats in the auditorium, little or no equipment in the teaching labs and inadequate support systems. In the University Hospital there were sounds of jackhammers and the litter of construction crews everywhere: the operating suite, delivery rooms, nursery clinical lab, x-ray, and a succession of patient wards. The outpatient clinics had to be moved a block away to the State Hospital's old Shuffield Building, formerly an inpatient tuberculosis unit; even with extensive renovation the temporary new site was not ideal for patients, staff, students or faculty.

From a psychological aspect the biggest worry was not the noise and dust of workmen, since pleasant new quarters were just weeks ahead, but concerns about the equitable distribution of new space to become available. The move of the student labs into Ed II opened up for new occupancy the old teaching labs; moves of the Nursing and Pharmacy Colleges and of the Library made additional unclaimed territory. For years the clinical faculty had been cramped and crowded into a Hospital that was not designed for a full-time

staff. Now the opportunities brought to full consciousness the degree of congestion and the need to expand. Additional space reassignment would be coming along in the months ahead in the Ambulatory Care Center, the University Hospital proper, the Barton Research Building, and in the Children's Hospital. There will be a move of inpatient Psychiatry to the State Hospital, of Family Practice out of Central Baptist Hospital to University Hospital, expansion in the Arkansas Rehabilitation Institute and CARTI, modifications in the Ambulatory Service at the Little Rock VA Hospital and of Building 58 at the North Little Rock campus, and a host of other changes. Let it only be said that we have survived, and a cautious equanimity seems to have gained control.

More Construction Ahead. We have but started! An update on the events to be seen in the next few months follows:

- A. In general UNIVERSITY HOSPITAL construction in the patient areas should be completed sometime this Summer.
- B. Startup construction of additional ANIMAL FACILITIES on the rooftop of the Barton Research Building should be started sometime this Fall.
- C. AMBULATORY CARE CENTER (the official name of our new outpatient clinic) construction should be completed by January 1979.
- D. The following new MEDICAL SCIENCES CAMPUS projects will be started as soon as new legislative appropriations are received:
 1. New Hospital Lobby — to be placed in the present breezeway between Education Bldg. I and the existing Hospital entrance.
 2. Move of the Dean of Medicine's offices to the old library space.
 3. Renovation of the present Chancellor-Dean administrative area for additional ambulatory care space.
 4. Clinical department offices — renovation of floors 2 and 3 in the old Educational Building.
 5. Medical faculty research laboratories —

*Adapted from a speech presented at the Spring Faculty Meeting on June 8, 1978.

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renovation of the antiquated teaching labs on floors 3-7 of Education I.

6. Medical Intensive Care Unit — renovation of the old clinical laboratory space on the Hospital third floor.
7. Expanded Emergency Suite and new Admitting—Patient Accounts—Medical Records Room — renovation of the Hospital ground floor.
8. School of Dental Hygiene — to be relocated from 12th and University to the old medical records area.

E. ARKANSAS CHILDREN'S HOSPITAL is scheduled for some immediate improvements prior to moving into their long-range construction plans. Called "Project Move Ahead," the changes include the addition of a heart catheterization laboratory, construction of six temporary buildings to house the clinical laboratory, library, medical records and admissions areas, etc., an expansion of the Clinic parking lot, new radiology and nuclear medicine equipment, operating room expansion, and General Pediatric Clinic renovations.

F. The VA HOSPITAL construction project should start sometime during calendar 1979, probably on the North Little Rock campus first, then later during the year on the Medical Sciences campus.

G. A first PARKING STRUCTURE for the Medical Sciences campus at long last seems possible for some action within the next several months. The likelihood of a state appropriation for the construction seems remote, and therefore the parking charges may be quite high to pay off the bonds. Even so it will provide short-term parking for visitors and patients which is very much needed.

Faculty Development. Efforts have been directed primarily this year at retention of the present faculty by upgrading the support in a number of areas. Salary improvements have absorbed nearly all our appropriated and earned income so that we have been unable to proceed as hoped with faculty expansion. The needs for better office and research space have been analyzed to allow the faculty to be more efficient and effective in their work, startup funds for new teaching and research programs have been increased, and better fringe benefits have been addressed. A few new faculty have been added in

selected areas, but most new faculty have been replacements rather than new positions.

The new Departmental Chairmen and Division Heads during the past few months are especially noteworthy, and I am extraordinarily proud of our accomplishments in recruiting these superb people to be our academic leaders:

1. *Dr. Peter Kohler* arrived about a year ago (June 1977) from Baylor University to assume the chair in Medicine. New Internal Medicine faculty who have assumed responsibilities as Division Heads are: Pulmonary Division — *Dr. Roger Bone* (from the University of Kansas); Cardiology Division — *Dr. Marvin Murphy* (from our own faculty); Nephrology Division — *Dr. Jay Puschett* (from the University of Pittsburgh).
2. *Dr. Ernest Ferris* arrived August 1977 from Boston University as Chairman of Radiology. He subsequently recruited a new faculty person to head the VA Hospital Radiology program, *Dr. Eugene Binet*, (arrived June 1978 from State University of New York at Syracuse).
3. *Dr. Robert Walls* of our faculty was appointed Head of the Division of Biometry in February 1978.
4. *Dr. Donald McMillan* arrived in July 1978 from University of North Carolina to become Chairman of the Department of Pharmacology.
5. *Dr. Kenneth Goss* of our faculty has accepted Chairmanship of the Department of Family and Community Medicine, effective July, 1978. In the Division of Emergency Medicine *Dr. Ronald Kahn*, a 1977 graduate of the UAMS Family Medicine residency program, assumed responsibility as Director last November.
6. *Dr. Glen Baker* from the Little Rock practicing community will serve as the Acting Chairman of Pathology beginning July 1978 and hopefully will remain a full-time member of the faculty thereafter.
7. *Dr. John Pauly*, currently Chairman of Anatomy, will assume additional responsibilities as Chairman of the Department of Physiology in July, 1978.
8. *Dr. Ralph Wynn* from the University of Illinois has accepted the Chairmanship of the Department of Obstetrics and Gynecology and will be present full-time in September

1978. In the interim period he is here about two days of every two or three weeks to participate in the student instruction.

Although the position will not be one for our full-time faculty, Dr. R. Michael Rankin, Director of the Community Mental Health Program, San Mateo County, California, has accepted the position as Commissioner of Mental Health Services for Arkansas, replacing Dr. George Jackson. Dr. Rankin is an excellent administrator and psychiatrist, our top choice for the position, and the entire campus should feel very pleased about the appointment.

Student Development. Each year the quality of our student body seems to improve over the year before. The number of students who have unorthodox backgrounds, e.g. college majors in non-science programs, is increasing somewhat and is a positive reflection of our flexible admissions requirements; a valuable mix of background interests is thus brought into each entering class. Over the past three years we have accepted students who majored in Accounting, Anthropology, Biomedical Engineering, Chemical Engineering, Electrical Engineering, Mechanical Engineering, Economics, English, Foreign Language, Forestry, History, Mathematics, Music, Natural Sciences, Nursing, Psychology, Physical Education, Political Science and Sociology. Although all students admitted are Arkansas residents, more than one-fourth have attended college out of state. This year eight (8) students admitted into the freshman class will have graduate degrees, M.S. or Ph.D. A sizable group each year are from rural or impoverished backgrounds. Gradually the number of female and minority students is increasing in direct relationship to the number of applicants.

Our Office of Minority Student Affairs this year has been described by the *New York Times* and the *Wall Street Journal* as perhaps the model minorities development program in the nation because of its emphasis on early identification of candidates and in-depth counselling on proper premedical studies and activities. The benefits of this should be fully evident in another two or three years. In the interim period we are finding a significant number of students who are poorly prepared for their medical studies in spite of having competitive admissions records. This places an extraordinarily heavy remedial load on the faculty, but one which cannot be discarded

as though we have no responsibility in assisting in what is acknowledged to be a major societal problem.

The numbers of *predoctoral medicine* students will continue to rise this year as the larger class size (136) moves into the sophomore year. We also have been obligated to accept six transfer U.S. foreign medical students in the junior year to qualify for federal financial support for our educational programs. I have expressed grave concern to the Chancellor and President about expanding the class size further unless there is full legislative support for concomitant faculty expansion.

Our commitment to further incremental *post-doctoral students* (housestaff) has continued, so that we will have 120 intern-level positions filled in Arkansas this next year. There will be a total of 342 interns, residents and fellows registered in the 1978-79 University of Arkansas training programs. This includes thirteen Vietnamese physicians who are completing a special training program prior to entering rural practice in the state. More than two-thirds of our regular graduates again entered the primary care careers so much needed in Arkansas small towns, and we can be justly proud of our track record. Specifically, 33 — Family Practice, 29 — Flexible, 14 — Medicine, 11 — Surgery, 9 — Pediatrics, 8 — Psychiatry, 7 — Obstetrics, 5 — Radiology, 4 — Pathology, 1 — Urology, 1 — Anesthesiology.

Interest in the *biomedical graduate programs* sponsored by the College of Medicine faculty continues strong. Since these programs add so much to the quality of our basic science teaching efforts, and since they represent the future scientific investigators and teachers for our school, we have every reason to be strong advocates for these students.

The numbers of courses and participants in the *Continuing Physician Education* program grew again during the past year. Although the total attendance would suggest that every physician in Arkansas attends one course, we probably are relating with only about half the state doctors — some on multiple occasions. The MIST line which allows state doctors to call our faculty for consultation has more than tripled in the volume of calls over the past year. An average of more than one hundred ingoing and outgoing calls now is being handled each week.

Student Financial Assistance. The levels of as-

sistance provided or secured for students has increased from a level of a quarter of a million dollars in 1969-70 to 1.5 million dollars in 1977-78. The growth is explained by enrollment and cost of living increases, plus a change in the applicant pool. Approximately 70% of the College's enrollment is dependent on assistance other than that provided by parents and relatives. This past year 344 students requiring assistance were assisted with loans and scholarship averaging \$4,360 per student.

The dependency of our students on financial aid is reflected by parental socio-economic levels as shown:

% Assisted	Parental Income Levels
46%	Less than \$15,000
36%	\$15,000 - \$20,000
18%	over \$20,000

Parental profiles show a high percentage of families with more than one sibling in college. An unusually high percentage of those requiring assistance have parents who are retired, disabled, diseased or separated.

There have been marked changes in sources of funding. In 1969-70 the Health Professions Student Loan and Scholarship Programs provided almost the total amount of assistance to the College, one hundred scholarships. Today the Bank Loan Program of the State (federally guaranteed and interest-subsidized), and the Arkansas Rural Medical Practice Loan & Scholarship Fund provide the bulk of our assistance. Gifts, bequests, and the State Medical Society Auxiliary's (AMA-ERF) annual contribution make up nearly five percent of the total requirement.

Health advisors to the President and DHEW advocate that direct federal subsidy for medical students is no longer necessary on the basis that the physician shortage is rapidly on its way to elimination; further they feel that it is not equitable that the highest paid profession should also have the highest training subsidy. The National Health Service Corps program has been developed to address physician shortages in critical areas . . . maldistribution and student financial need. Already 5,400 students are in the program and 1,600 will be added this fall from all schools. Five Arkansas students are enrolled and others are applying.

The 1977-78 highlights are as follows:

1. Alumni gift of \$10,000 for student loans.
2. Continued expansion of the Arkansas Rural

Medical Practice Program.

3. Establishment of an AMA-ERF loan outlet locally (this is the ninth such arrangement in the nation) to extend our loan possibilities.
4. New level of accomplishment of the Arkansas Medical Society Auxiliary in its fund drive.
5. AAMC ranking in upper 10 percentile of medical schools in meeting student needs.

Curriculum Changes. Schedule shifts in the *freshman* medical year during 1977-78 have been generally satisfactory. The biochemistry course move into the first portion of the year with Gross Anatomy has not caused problems (actually the reverse) and the block teaching of Physiology at the end of the freshman year was given enthusiastic applause.

The *sophomore* medical year during 1977-78 has evidenced some student unhappiness over the heavy workload. The faculty Council for Academic Affairs has made a number of recommendations for improvements next year.

This was the year in which the medical-surgical subspecialties clerkship was augmented for the *junior* class. I have been skeptical about such a rotation because of its polyglot nature and the potential for inadequate coordination or supervision. The effort has gone rather well this year, but I will continue to watch it with interest as an unproven program. We also developed a junior orientation program prior to the first clerkship rotations to introduce the routine ward procedures. Many juniors have become certified for CPR during this week of clinical orientation.

Preparations have been laid for implementation of the *senior* primary care selectives during the centennial year. The shortage of faculty in the ambulatory care areas may be a serious barrier to a good learning experience.

Special programs. Several new activities have been developed to facilitate our student educational programs. All freshmen this last year were invited in for a three-day series of orientation talks and social events prior to the beginning of classes. A brief review of first aid medicine and practice sessions in cardiopulmonary resuscitation were given. The Office of Educational Development provided refresher seminars in study methods, test-taking techniques and the like.

The majority of the sophomore class again participated in the rural preceptorship program

this summer prior to starting their clinical clerkship rotations.

Junior students this last year were invited to participate in an informal beer and coke mixer with faculty to discuss senior elective programs. Faculty were grouped around tables according to their elective course offerings, and a considerable amount of information was exchanged rapidly in a pleasant setting.

A "Senior Day" was inaugurated this past year using the same relaxed mixer format. In this instance each faculty physician wore nametags listing the hospitals or clinical centers where training had been taken, with the idea that students could get a quick overview of internship options. The session stimulated a considerable amount of interest and undoubtedly will be held yearly.

A special day also has been set aside for Freshman Parents to visit the Medical Center and become acquainted with other students. Senior parents are extended a special invitation to attend the Spring Honors Convocation. All relatives of students are invited to visit the campus annually through the Parents' Club, and regional "Dinners with the Dean" are held for parents throughout the state at periodic intervals. The objective of these activities is to broaden the base of understanding and support for College of Medicine programs.

Very special efforts have been made during the past three years during alumni weekend (Arkansas Caduceus Club) to give former graduates an updated view of our current educational goals and programs. These sessions seem to have stimulated a much improved sense of identification of alumni with our activities and hopefully will generate additional needed support during the years ahead.

The Office of Community Medical Affairs this year has continued the highly successful series of weekend bus tours to needy Arkansas towns for junior and senior students and their spouses. The Physicians' Opportunity Fair again packed the Jeff Banks ballroom with visitors from the towns looking for new doctors. And the Office for Research in Medical Practice, financially supported

by the Winthrop Rockefeller Foundation, continued the field studies of why Arkansas doctors stayed or moved from their initial practice sites. Much talk is now being heard about the development of a National Center for Rural Studies at Arkansas.

The Special Vietnamese Program is probably in its last year of activity since 20 of the 22 physicians enrolled have completed successfully the medical portion of the ECFMG examination. Six of these doctors also have completed a year of residency and are in practice; the others are in various phases of further training. Dr. Jeannette Shorey has done a superior job in coordinating this effort and deserves highest commendations.

A spectrum of special events has been planned for this Centennial Year of the College of Medicine, highlighted by the publication of a major history of the campus. Dr. Robert Shannon has spearheaded the planning for the celebration and all alumni, faculty, students, staff and friends are encouraged to participate at every opportunity.

College Finances. Under ideal circumstances a public medical school should have three approximately equal sources of support: state appropriations, professional fees income, and funds for biomedical research. Our income from professional services has risen dramatically to about \$6 million per year, but our dream of serving as a true University *clinical resource center* has yet to reach its zenith. In the arena of biomedical research we are improving, but should strive continuously to be a better *academic and scholarly center*. Most embarrassing is our poor support from major gifts and donations: named chairs for distinguished citizens, endowed laboratories, foundation grants are virtually nonexistent. The centennial year offers an excellent opportunity for reversing this tradition of neglect.

Missions For The Year Ahead. At no time in our history has the potential for institutional development and growth seemed better. If the opportunities for individual and collective advancement are indeed present, then the task for each of us is to harness our intellectual and other talents to the needs of our students and our fellow man.





Office Orthopaedics

Muscle Spasm of Local Origin—Diagnosis and Treatment

H. Austin Grimes, M.D.*

Acute muscle spasm of local origin is characterized by the spasm itself, pain, tenderness, restricted motion and impairment of the activities of daily living. The local pain may be characterized mild and cramping to rather severe and disabling. Varying degrees of stiffness, tenderness and reduced mobility occur with all complaints of muscle spasm. Pain may be present locally at the site of the muscle spasm, may be referred pain from the localized spasm, or may be radicular in type. The radicular pain is usually considered the most severe.

In determining the cause of muscle spasm, the condition should be first classified acute, chronic or recurrent. Consideration should be given to the manner of onset and how the spasm is affected by stress. Any other contributory factors should be noted. Evaluation of the overall physical status and occupational status of the patient is important. The medications the patient has been taking and how he reacts to them should also be considered in the initial workup. In general, both the patient's physical and emotional reactions will be of help in predicting his response to whatever treatment one might institute. In addition to determining areas of local tenderness, the patient's posture, range of motion of various parts, reflexes and peripheral sensation should be evaluated. Laboratory tests, X-rays, EMG and myelograms are of little or no value in most acute episodes. However, in the chronic and recurring episodes, X-rays may give one some information in determining the contributing causes to the secondary muscle spasms, such as

osteoarthritis, degenerative disc disease, structural abnormalities of bone and osteoporosis, especially in the elderly.

Some instances of acute muscle spasm are associated with injuries of the cervical spine, such as those resulting from rear end automobile collisions. The neck pain may be localized as with paraspinous muscle spasms, or suboccipital headaches may be a secondary feature of the muscle spasm. On occasion, patients may have referred pain to the shoulders or down the arm. Shoulder pain characteristically is difficult to localize in the recurring episodes as it tends to shift about, sometimes in the deltoid, sometimes in the insertion of the deltoid and other times in and about the rotator cuff insertions. Frequently, spasm will occur in the muscle mass itself, about the scapula in the supraspinatus or infraspinatus, or may even be localized in the teres minor. Tenderness over the bicipital tendon frequently elicits even more spasm in the biceps muscle and its insertion into the radius and/or referred type pain into the elbow emanating from the shoulder. The more severe types of acute muscle spasm are associated with radial neck fractures whether or not they are displaced. In the displaced radial neck fracture there is most assuredly a great deal of trauma, but even in a non-displaced fracture, which may not even be evident on X-rays unless one has special views, this muscle spasm is in my experience, most exquisite and difficult to control. Usually a long arm cast or splint is necessary as well as pain medication and muscle relaxants. Tennis elbow frequently is associated with muscle spasm in the conjoined tendon of the common extensor of the wrist and fingers

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as well as the brachioradialis. Trigger points such as the sternocleidomastoid at the insertion of the mastoid, C6-7 spinous processes, rhomboids and various other sites that often respond to local 1% Xylocaine injections, occasionally require repetition of injections to attain relief. Hand pain associated with "shoulder-hand syndrome" may be in part muscle spasm with cramp-like discomfort.

The most common site of muscle spasm of local origin is the back. This may be associated with back strain, activities which are unusual for the patient or an overindulgence in some activity to which he is accustomed. Muscle spasm in the back is often easily triggered. Frequently a cough, a sneeze, or lifting even a small weight (two to three pounds or less) will set off an episode of back spasm seemingly out of proportion to the amount of work done. The muscles in the back are thick coarse fibered bundles which, when they do go into spasm, are slow to respond to drugs, therapy or rest. However, this is quite disabling and anyone who has had muscle spasm in the lumbar spine can be most sympathetic with the patient who has this problem. Muscle spasm in the lumbar spine frequently is localized to the lumbar spine muscles, but may radiate into the buttocks and simulate pain from sciatica, or may appear in the insertion of the paraspinal muscles along the sacrum. Local tenderness in the sciatic notch helps differentiate the muscle spasm from true sciatic irritation. Straight leg raising may accentuate the muscle spasm in the back and give a false impression that this is a result of sciatic irritation, or there may be a combination of muscle spasm and sciatica which is very difficult to differentiate. Significant muscle spasm, straight leg raising pain and pain into the calf associated with herniated lumbar disc are usually more characteristic of an acute herniated disc. Differentiation between osteoarthritis of the lumbar spine, lumbar disc disease, herniated lumbar disc and acute local muscle spasm in the lumbar spine is difficult. However, careful evaluation, good physical examination, details of the episode at onset, neurological examination, straight leg raising provocative test, and X-ray examination of the lumbar spine usually serve to differentiate the various causes of the pain and muscle spasm. In many instances an overlapping of all three causes, osteoarthritis, degenerative disc disease and strain give the complaints the

patient presents in your office. Muscle spasm in the calf of the leg usually is radicular in nature when associated with low back pain, but may be entirely separate. Low back pain may not be the presenting complaint even in cases of herniated disc or degenerative disc disease. Other areas of pain and muscle spasm in the leg associated with herniated disc disease are pain and cramping in the foot, toes, anterior calf and lateral calf along the peroneal muscle origins. Early arthritic changes in the hip may be manifested by muscle spasm in and about the hip flexors and abductors. Careful X-ray examination of the affected areas frequently will reveal joint space narrowing which helps to confirm the diagnosis. In these instances laboratory tests may be of benefit in distinguishing rheumatoid arthritis from the various arthritides, i.e. ANA, sed rate, HLA-B27, uric acid, calcium phosphorus, alkaline phosphatase and bone fraction.

Other areas in the lower limbs that are associated with acute and chronic spasms are quadriceps, following knee injuries and gastroc soleus injuries, noted frequently in the aging tennis enthusiast. These areas of the calf after healing the initial insult are irritated by overindulgence and tend to recur with spasm as a primary complaint. The lower limb spasms are not candidates for local injection with Xylocaine or other caine drugs and respond better to physical therapy with or without muscle relaxants.

Treatment of muscle spasms, whether they are acute, recurring or chronic, consists primarily of rest of the part, physical therapy, heat, exercise, massage, occasionally ice packs, and even locally infiltrated 1% Xylocaine, at time initially. When muscle spasm is of an acute origin such as with certain sports activities, especially in tennis with partial rupture of the gastroc soleus muscle group, later on, heat may be beneficial in restoring circulation and activity level to this site of injury. Proper exercises to improve muscle function, increase relaxation, improve muscle metabolism, restore strength and tone and relieve pain should be carried out as indicated for the various muscle groups. Massage of the part especially in the large muscle masses such as the cervical spine and lumbar spine also expedites recovery.

Drug therapy, muscle relaxants and analgesics are of benefit and usually are used in the initial phases of the acute muscle spasm, but are less effective in chronic muscle spasm. The acute mus-

cle spasm in the first week or ten days is most effectively treated with muscle relaxants such as Cyclobenzeprene (Flexeril) orally 10mg, 1 t.i.d. Non-narcotic analgesics are preferred, but on occasion narcotics are required and should not be restricted as long as they are used over a short treatment period. I think narcotic analgesics are indicated especially for those cases in which there are associated complaints such as numbness or tingling, where there may be suspicion of a herni-

ated lumbar disc even in the absence of X-ray evidence and positive neurological findings.

Finally, in some instances, intravenous muscle relaxants are helpful. Methocarbomal (Robaxin) intravenously, usually in a 10mg vial, has been found effective in giving relief to the acute spasm, especially in the back and neck. However, I suggest limiting intravenous muscle relaxants to the first day of the episode. Thereafter, I find the oral muscle relaxants just about as effective.





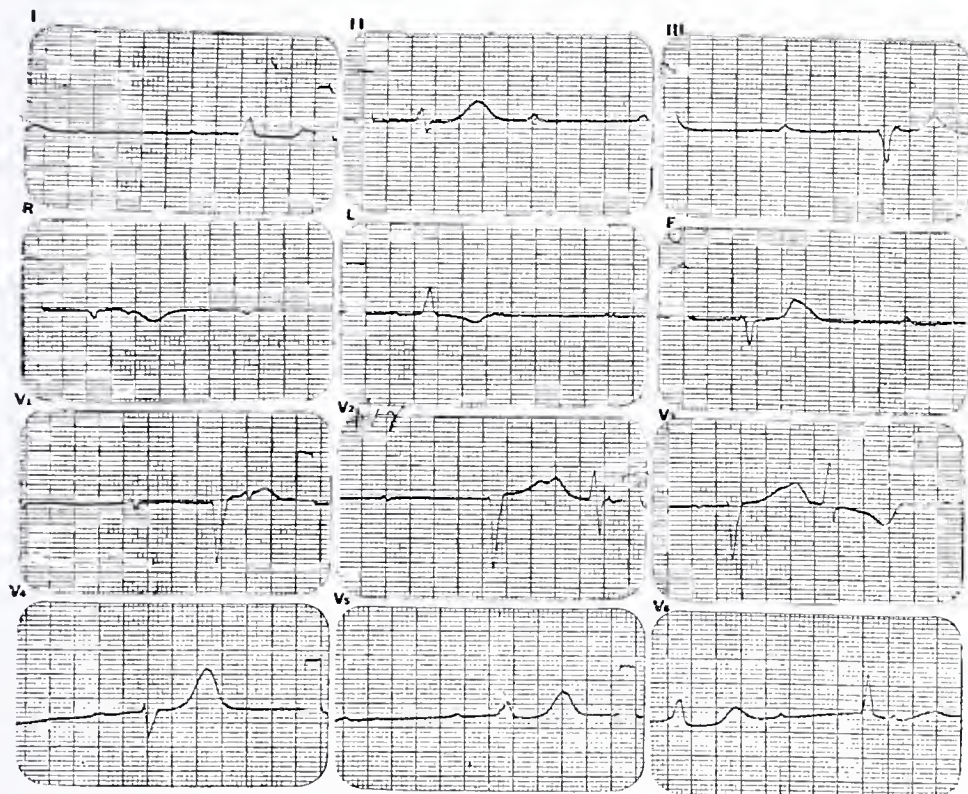
ELECTROCARDIOGRAM

OF THE MONTH

The Department of Cardiology, University of Arkansas College of Medicine

(See Answer on Page 166)

HISTORY: Mrs. G. is a 73-year-old black woman presenting with a chief complaint of chest pain. Her pain has angular features and has slowly progressed over five years time to the point that she is comfortable only at rest. Paroxysmal nocturnal dyspnea developed five months prior to presentation. The patient has not experienced syncope. She takes sublingual nitroglycerin tablets obtained from her husband but denies the use of other medications.

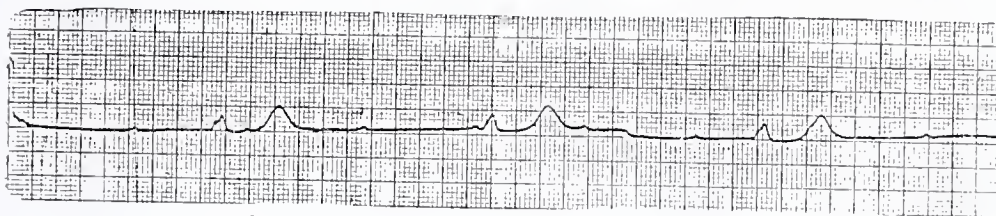


On physical examination, she was comfortable at rest. Her blood pressure was 180/70 mm Hg. Her pulse rate was 27/minute and regular. Cannon A waves were noted in her neck. Basilar rales were present in her chest. A Grade II/VI systolic ejection murmur was noted in her aortic area and at the left sternal border. An S_3 was present. She had 1+ pretibial edema.

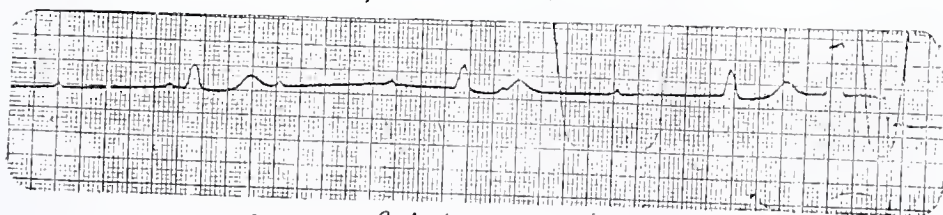
PA and lateral chest x-rays were interpreted as showing cardiomegaly with early cardiac decompensation and a small right pleural effusion.

Which of the following statements are true?

- A. AV dissociation is present
- B. Complete heart block is present.
- C. Cardiac pacing is the treatment of choice for her heart disease.



U6 Rhythm strip



U5 Rhythm strip

John W. Watson, M.D.
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Recommended Management of Gonococcal Salpingitis

Paul C. White, Jr., M.D.* and Van Jenkins**

Salpingitis is a major health hazard for women infected with gonorrhea. The fact that the majority of females who contact gonorrhea are without symptoms contributes to the problem and increases the likelihood of complications developing.

DIAGNOSIS

The diagnosis of gonococcal salpingitis should be considered in young sexually active women with acute lower abdominal pain and adnexal tenderness on pelvic examination. Since there are no completely reliable clinical criteria on which to distinguish gonococcal from non-gonococcal salpingitis, endocervical cultures for gonorrhea are essential in such patients. The Arkansas Venereal Disease Program recommends and will assist diagnosing and treating facilities in obtaining and processing modified Thayer-Martin cultures for patients with suspected salpingitis. Therapy, however, should be initiated immediately without waiting for the results of the culture.

TREATMENT

There have been controlled studies on the treatment of gonococcal complications.^{1,2} Initial management must at least be adequate for gonococcal salpingitis. The regimens below are recommended by the Center for Disease Control and the Arkansas Department of Health.

Outpatients

1. APPG 4.8 million units intramuscularly, divided into at least 2 doses and injected at different sites at one visit or 3.5 gm of oral ampicillin. One gm of oral probenecid is given along with either penicillin or ampi-

cillin, and both are followed by 500 mg of ampicillin taken orally 4 times a day for 10 days.

2. 1.5 gm tetracycline hydrochloride* given as a single oral loading dose, followed by 500 mg taken orally 4 times a day for 10 days.

Hospitalized Patients³

If, in the opinion of the attending physician, hospitalization is indicated, the following treatment regimens are recommended:

1. Aqueous crystalline penicillin G 20 million units given intravenously each day in divided doses until clear-cut improvement occurs, followed by 500 mg of ampicillin taken orally 4 times a day to complete 10 days of therapy.
2. Tetracycline hydrochloride* 500 mg given intravenously 4 times a day until improvement occurs, followed by 500 mg taken orally 4 times a day to complete 10 days of therapy. The need for additional or alternative antibiotics for the treatment of non-gonococcal salpingitis requires further study. Since it is impossible to distinguish gonococcal from non-gonococcal salpingitis clinically, many physicians also use an aminoglycoside in addition to penicillin and/or antibiotics which are effective against *Bacteriodes fragilis* as initial therapy.

FOLLOW-UP

Adequate treatment of women with acute gonococcal salpingitis must include examination and appropriate treatment of their male sex partners because of the high prevalence of nonsymptomatic urethral gonococcal infection in such men. Failure to treat male sex partners is a major cause of recurrent gonococcal salpingitis. With physician permission, interviewing assistance is

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*This regimen should not be used for pregnant women or for patients with renal failure.

provided by the VD Program, Arkansas Department of Health.

Follow-up of patients at 48-72 hours and again at 7 days to assess response is recommended.

Gonococcal salpingitis patients, as well as all gonorrhea cases, should receive a test-of-cure culture (post-treatment) on Thayer-Martin media 3-10 days after treatment. A second post-treatment culture is also recommended 4-6 weeks after therapy.

REPORTING

All venereal disease cases are reportable to the Arkansas Department of Health. Three acceptable methods are:

1. Code-a-phone 1-800-182-8888 (Arkansas Department of Health)
2. Morbidity card (form number CD:VD-5)
3. Telephone county health department or public health investigator (VD).

REFERENCES

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3. Eschenbach, D. A., Holmes, K. K.: Acute Pelvic Inflammatory Disease: current concepts of pathogenesis, etiology, and management. *Clin Obstet Gynecol* 18:35-56, 1975.



EDITORIAL

Gastro-Intestinal Hormones

Alfred Kahn, Jr., M.D.

Gastro-Enterology has become a very erudite field of medicine. A few years ago journals on this subject had fairly perfunctory articles on X-ray interpretations and old meat re-hashed. Many of the better articles were on the physiology of the gut. Newer methodology, both chemical and mechanical, have opened new vistas. There are many exciting and interesting reports in this field.

The journal, *Gastro-Enterology*, has a supplement on gastro-intestinal hormones. For example, Johnson has reviewed "New Aspects Of The Trophic Action of Gastro-Intestinal Hormones" (*Gastro-Enterology*, Vol. 74, p. 788, Part 2, April, 1977). This study reports on the trophic effects of gastrin, vasoactive intestinal peptide, glucagon on the entire gastro-intestinal tract. DNA was used as a yardstick and the experi-

mental animal was the rat, as expected gastrin stimulated trophic effects in the stomach and duodenum; it also stimulated the colon. Vaso-active intestinal peptide did not have a trophic effect by itself. They report glucagon stimulates both the colon and the stomach. Not reported here, but previously known, is the stimulatory effect of cholecystokinin on the pancreas; secretin is said to have no trophic action.

Yajima, Kai, Ogawa, Kubota, Mori, and Koyama, in the same supplement, reviewed "Structure-Activity Relationships of Gastrointestinal Hormones: Motilin, GIP, and (27-TYR) CCK-PZ." In this interesting work, the authors synthesized fragments of hormones to try and determine the parts which were active. For example, they made some Motilin fragments and found that deletion of thiipeptide Thy-Tyr-Glyc

resulted in loss of activity. They also used fragments of gastric inhibitory peptide and cholecystokinin-pancreozymin; active fragments were found in these substances, too. The interval structure of secretin has also been studied by Konig, Wissmann, Bickel, Obermeier, Teetz, and Uhman in the same supplement (p. 797); this can be readily done since secretin has been synthesized; secretin was even prepared that could be used as a depot substance. Secretin's immunoreactivity was traced by Bodanszky, Fink and Boden and reported in the same symposium; it apparently lies in certain acidic residues which can be replaced with neutral residues — which if done reduces immunoreactivity decidedly. Immunologic aspects of secretin, substance and vasoactive intestinal peptide was also reviewed in the same supplement by Yanaihara and others using their techniques, these hormones could be assayed in various parts of the gastro-intestinal tract.

A broader article on newer gut hormones is presented by Pearse, Polak and Bloom in *Gastro-Enterology*, Vol. 72, p. 746, April, 1977. They describe the gastro-intestinal tract as a "repository for a whole spectrum of true endocrine cells." The embryologic origin of these endocrine cells is in doubt but many come from the neural crest. The current cell classification is based on electron microscopy and called the Wresbaden classification; Pearse states that 12 cell types in the gut and five in the pancreas have been identified; a second classification is by direct immunoelectron cytochemistry; and a third method is by indirect electron microscopic immunocytochemistry. The authors discussed some of the individual hormones, which appear to come from distinct cell types. Enteroglucagon is like pancreatic glucagon but arises from the gut; it exists in two forms; it can arise from two different cell types. Another hormone is vasoactive intestinal peptide which can arise from both the gut and the autonomic nervous system; its actions are said to be "diverse, most of them being shared with secretin, glucagon, and gastric inhibitory peptide." G.I.P. or gastric inhibitory peptide is a potent inhibitor of gastric secretion; it is said to arise from K cells. Motilin is a gut hormone which produces very marked muscle activity; it arises from E.C. cells. Somatostatin inhibits the release of growth hormones; it was originally found in the hypothalamus; it has also been found in the gut and stomach; this hormone

blocks insulin release and inhibits gastrin release in addition to other activities. Pancreatic polypeptide's physiology is largely unknown; however, it is useful clinically in that endocrine pancreatic tumors release large quantities of this peptide and they can serve as a herald sign or marker. Lastly, Bombesin has been isolated from the skin of amphibians; its actions are unknown but are thought to relate to gastrin.

Similar to the above articles is a seminar in medicine concerning "Neuroendocrine Neoplasms and Their Cells of Origin" by Tischler, Dichter, Biales, and Greene in *The New England Journal of Medicine* (Vol. 296, p. 919, April 21, 1977). This paper is quite broad-based and starts with the hypothesis that the nervous system and endocrine system work cooperatively but were long thought to arise from different tissues: nervous system from ectoderm and endocrine from nonectoderm tissue. Recently it has been found that some neuron-type cells are in fact neurosecretory cells and secrete hormones; these cells are thus ectodermal in origin. These cells have been called APUD cells by some investigators because their activity relates to amine precursor uptake and decarboxylation. The hormones attributed to this type of cell include gastro-intestinal hormones as ACTH, ADH, and VIP which can come from islet cell tumors; carcinoid tumors which produce ACTH and ADH. The APUD cells also include nongastro-intestinal tissue as hypothalamus, pineal gland tissue, anterior pituitary, autonomic neuron, carotid body, Thyroid C-cell, and Bronchial cells. The APUD cells can form tumors which produce the typical peptide hormone normally produced by the distinctive cell type. One curious characteristic of these APUD cells is that they are electrically excitable in many instances.



ANSWER—Electrocardiogram of the Month

DISCUSSION: The patient's atrial rate is 63/minute, the ventricular rate 27/minute, and the P-waves "walk through" the QRS complexes which are 0.12 in duration. Hence, both choice A and B are true. Pacing would be indicated in this patient symptomatic with angina and congestive failure.

MEDICINE IN THE



THE MONTH IN WASHINGTON

The Congress recessed for the Fourth of July holiday without the House Commerce Committee taking final action on the Administration's proposed hospital cost containment legislation. May and June have seen a bitter struggle within the seesawing committee, marked with a number of recriminations, including one that the White House had agreed to back a new \$75 million Veterans Administration hospital in Camden, N. J., after Rep. James Florio (D.-N.J.) decided to back the cost containment bill.

The two-month struggle has pitted the Carter Administration's attempt to place an artificial cap on hospital revenues — an imposition of controls on just one part of the economy — against a voluntary effort group (VE) comprised of the American Medical Association, the American Hospital Association and the Federation of American Hospitals.

The American Medical Association has supported the overall goals of the wide-ranging disease prevention-health promotion bill introduced by Sen. Edward Kennedy (D.-Mass.).

"Basic to success must be a major and continuing effort to educate the American people in healthful lifestyles and the importance of preventive medicine," testified Lowell H. Steen, M.D., a member of the AMA Board of Trustees. "Because results of such activities will not be visible overnight, we recommend a long-term commitment to these endeavors," said Dr. Steen.

Consideration of the bill now is "propitious," since public attention can be focused on the health issues to be considered at the July conference "Focus on Positive Health Strategies," jointly sponsored by Kennedy and the AMA, Dr. Steen noted.

The bill provides a new program of Federal formula grants to states to assist them in meeting the costs of planning and providing health services. These state programs would be directed at reducing the five leading causes of mortality within the state through systems of early detection, screening and prevention of these condi-

tions. A state could also receive formula funds for programs designed to reduce the five leading causes of morbidity within the state.

Special project grants would also be available for: (1) treatment of hypertension; (2) immunization of children; (3) community fluoridation programs; (4) prevention of illnesses caused by environmental factors; (5) prevention of rodent-borne diseases; (6) physical fitness activities; and (7) lead-based paint poisoning prevention.

Dr. Steen said the AMA is pleased that the states would have a major role in determining priorities for the disposition of funds. "We have long stressed the importance of state and local action in health matters and we are encouraged by this proposal."

The proposed level of funding might not be sufficient to reduce the rates of mortality or morbidity in a state effectively, Dr. Steen said. "It would indeed be unfortunate for Congress to develop a major disease prevention initiative, yet to fund it inadequately so that the effort might not get off the ground." He suggested that initially funds be concentrated on disease prevention programs.

Dr. Steen said programs such as those anticipated in the bill could substantially improve health, but "we should not be deceived into believing that these programs are a cure-all. Basic to success must be a major and continuing effort to educate the American people in healthful lifestyles and the importance of preventive medicine."

* * * *

Immediately following the Supreme Court decision in the Bakke case, C. H. William Ruhe, M.D., AMA's Senior Vice-President, made these comments on behalf of the Association:

The Supreme Court ruling seems to permit medical schools to continue using race as one factor in determining admission criteria. We hope that medical schools will, therefore, continue to use those selective admissions programs designed to increase the numbers of minority students. It is only through these types of pro-

grams that we can hope to increase the numbers of minorities in the practice of medicine.

The American Medical Association has long been in support of programs designed to increase minority representation in medical schools and in the practice of medicine. This position was reaffirmed recently in St. Louis at the Association's Annual Meeting through acceptance of a manpower report of the AMA Council on Medical Education. The report addresses the issue of "Black and Other Minority Group Physicians" with the opening statement: "The inadequate representation of minority groups in the medical profession and in medical school enrollments remains of concern to the AMA."

* * * *

The House Ways and Means Health Subcommittee has approved the Clinical Laboratory Improvement Act.

The new provision would prohibit percentage contracts with hospital-based physicians unless the charges were "reasonable" in terms of what the hospital would have paid for such services if the physician had been employed by the hospital, and the cost of other "reasonable expenses" incurred by physicians in performing the services. This provision would be applicable to clinical laboratories outside of a hospital.

The Health Subcommittee also approved language which provides that "if the Joint Commission on Accreditation of Hospitals imposes standards for hospital laboratories that are at least equivalent to the national standards, the Secretary of HEW (or the state, in the case of a state with primary enforcement responsibility) could deem a laboratory in a JCAH-accredited hospital to be in compliance with the national lab standards."

The CLIA bill extending federal regulations over clinical labs has passed the Senate and the House Commerce Committee which sent it to Ways and Means. All the bills are similar. The physician office exemption in Senate was not mandatory. The House exemption is automatic for groups of five or fewer, or for any size group if tests are done by the physicians themselves.

Rep. Paul G. Rogers, 57-year-old Florida Democrat whose name is often synonymous with health legislation on Capitol Hill, has decided to quit the House after 12 terms. Chairman of the House Interstate and Foreign Commerce Com-

mittee's Subcommittee on Health and Environment, Congressman Rogers has gained the reputation of a knowledgeable, tough but always fair, prime mover of health legislation in the House.

Facing no important opposition at home (parts of Broward and Palm Beach counties), Rogers said he merely wants to try "a change of career" and is "open to offers."

Candidates to succeed him include Reps. David Satterfield (D.-Va.), Richardson Preyer (D.-N. C.) and James Scheuer (D.-N. Y.), ranking members of the subcommittee.

* * * *

The House approved a \$55 billion money bill for the Health, Education and Welfare Department, both more and less than the Administration requested. The confusion arose because the House added \$641 million to specific programs, but also voted a \$1 billion general chop that may prove meaningless. Another \$17 billion of HEW programs must go through the appropriations mill, since the House is deferring action on these programs until their extended authorizations are approved later this year.

An amendment denying federal funds for Medicaid abortion payments unless the mother's life is imperiled was adopted by the House ensuring still another controversial go-around with the Senate on the emotional issue.

The bill is now in the Senate awaiting action.

The rather muddled budget situation saw HEW Secretary Joseph Califano writing letters to lawmakers deploring "meat ax" cuts on the one hand and threatening a Presidential veto for too fat a bill on the other.

The \$1 billion "out" in effect was a challenge to Califano's report earlier this year charging that fraud, waste and abuse is costing the Department more than \$6 billion a year. If that's the case, the House was saying, then at least \$1 billion ought to be saved through cracking down on the waste. However, no specific program reductions were required, nor will any services apparently be cut.

Much of the increase over the Carter budget voted by the House was for health manpower and general education outlays, which the Administration wanted trimmed. The National Institutes of Health received \$305.7 million more than the budget figure.

Many of the health program appropriations were sought by the American Medical Association which had urged that key programs, especially in the health manpower and national health service corps areas, not be slashed.

Rep. Robert Giaino (D.-Conn.), chairman of the House Budget Committee, recently told the AMA that "with a few notable exceptions, we adopted the same strategy you outlined . . . for funding health programs."

"With respect to programs which support health care services, training of health manpower and biomedical research, the committee recommended adding \$250 million to the President's budget request," said Giaino. "This total is in line with your recommendations, with the exception of the health professions education program for which you suggest fairly sizable increases."

The Budget Committee chairman also said in a letter to James Sammons, M.D., AMA Executive Vice President, that "I am pleased on the whole that the AMA recognizes the need to constrain the rising costs of health care programs and has joined with hospital associations to reduce the rate of increase in hospital costs."

* * * *

The F. Edward Hebert Naval Regional Medical Center in New Orleans is a \$22 million white elephant that should be abandoned by the Navy, reports the General Accounting Office. The Defense Department agrees with the findings.

The GAO, Congress' investigative agency, said the west-bank installation has a daily average patient load of 23, less than 10 percent of the 250-bed capacity. The potential for increasing the work load significantly "is virtually nonexistent," said GAO.

No blame was assessed by the GAO in its findings on the new installation that was dedicated in 1976 to Rep. F. Edward Hebert (D.-La.), former chairman of the House Armed Services Committee.

Annual operating and payroll costs for the hospital amount to more than \$7 million. GAO suggested the facility be used by the state of Louisiana for a planned adolescent mental health care installation, or that it be leased to Westbank Medical Center, Limited, which operates a nearby for-profit hospital.

* * * *

SOCIETY OF GASTROINTESTINAL RADIOLOGISTS

The Society of Gastrointestinal Radiologists is conducting a postgraduate course on "Diagnostic Imaging of the Gastrointestinal Tract" at Tan-Tar-A, Lake of the Ozarks, Missouri, from October the 12th to October the 15th, 1978. The registration fee is \$225. The course is cosponsored by the American College of Radiology with approval for category I credit of 13 hours. Further information and application materials can be obtained from the president of the society, Walter M. Whitehouse, M.D., Department of Radiology, University of Michigan Hospital, Ann Arbor, Michigan 48109.

* * * *

OUTSTANDING FACULTY MEMBER AWARD

Dr. Roger C. Bone, Chief of Pulmonary Medicine and Associate Professor of Medicine of the Internal Medicine Department at the University of Arkansas College of Medicine, has received the Outstanding Teacher Award from the junior and senior class members at the College of Medicine. Dr. Bone is a native of Bald Knob and a graduate of the University of Arkansas College of Medicine. He became a member of the faculty at U.A.M.C. in 1977.

AMERICAN COLLEGE OF SURGEONS

New officers of the Arkansas Chapter of the American College of Surgeons are Dr. J. Warren Murry, Fayetteville, President 1978-1980; Dr. Carl Williams, Fort Smith, Vice-President 1978-1980; Dr. J. Larry Lawson, Paragould, Secretary 1978-1981. Councilors are Drs. Charles W. Logan, Little Rock, Rhys Williams, Harrison; Robert M. Bransford, Texarkana; Raymond A. Irwin, Pine Bluff; James R. Walt, Little Rock, and Carl L. Williams, Fort Smith. Governors are Dr. Gilbert S. Campbell, Little Rock, and Dr. David M. Yocum, Jr., El Dorado. The Arkansas Chapter held its annual meeting June 17th at the Red Apple Inn in Heber Springs. Next year the meeting will be the second week of June at the Red Apple Inn.

DR. JAMES ELECTED

Dr. William Joe James of Pine Bluff has been selected president-elect of the Arkansas Psychiatric Association. Dr. James has been in practice in Pine Bluff since 1960, where he is the associate medical director of Southeast Arkansas Mental

Health Center. He has served for the past two years as the Arkansas district branch representative to the American Psychiatric Association's general assembly in Washington, D.C.

* * * *

COUNCIL MINUTES

ARKANSAS MEDICAL SOCIETY

The Council of the Arkansas Medical Society met at 12:00 noon on Sunday, August 6, 1978, in the Camelot Inn, Little Rock. Present were Burge, Wynne, Andrews, Pearson, Shuffield, Duzan, Osborne, Crow, Gray, Bell, Stone, P. Bell, Irwin, Warren, Jameson, Harris, Clark, Jones, Williams, Chudy, Phillips, Kolb, Watson, Verser, Brown, Purcell Smith, Edgar Easley, Ken Lilly, Dr. Robert M. Rankin, Mrs. Margaret Kolb, Mrs. Mary Joe Mizell, Mr. Eugene Warren, Mr. Mike Mitchell, Mr. Bob Cearley, C. C. Long and Leah Richmond. Present for a portion of the meeting were John Kirkley, Robert Benafield and Stevenson Flanigan.

Chairman Burge called on Payton Kolb for the invocation.

The new Commissioner of Mental Health for the State of Arkansas, Dr. Robert M. Rankin, was introduced by Dr. Kolb.

The Council transacted business as follows:

1. Chairman Burge reviewed actions of the Executive Committee since the last meeting of the Council.

(A) In late June, the Executive Committee approved distribution of a letter to membership giving details on the failure of the petition campaign.

Dr. Burge asked for a separate vote on this item because of the dissatisfaction of some of the membership regarding the handling of this issue. Chairman Burge read a letter from the president of the Boone County Medical Society regarding the petition campaign and Dr. Jones requested information on the final cost of the project. Dr. Long indicated that some small bills were still coming in and it was not possible to give a complete total but it was anticipated that the total expenditure would be approximately \$11,000. The action of the Executive committee was approved with one member dissenting.

(B) On July 26th, the Executive Committee

set the date of November 19th for the winter meeting of the Society and authorized expenses for up to three representatives to attend a conference on Continuing Medical Education in Chicago in early October. Upon motion of Shuffield, the Council approved these actions of the Executive Committee.

2. Chairman Burge presented to Margaret Kolb a resolution of appreciation for her work as chairman of the Healing Arts Committee.
3. Chairman Burge reported to the Council on the result of staff investigation to date regarding accidental death insurance for Council members while on Society business. He gave information on two proposals for \$100,000 coverage—one at a cost of \$4,200 per year and one at a cost of \$280 per year. The latter proposal excluded coverage for either the pilot or passenger of private aircraft. Upon motion of Williams, the Council directed the staff to obtain additional information on such insurance to cover all modes of transportation. In response to a question from Dr. Shuffield, Chairman Burge stated that proposals would be brought back to the Council for consideration.
4. The senior delegate to the American Medical Association, Purcell Smith, gave a report on the recent meeting in St. Louis. He also discussed with the Council a suggestion that Arkansas delegates caucus with neighboring states during AMA sessions and asked for direction regarding the proposal. Upon motion of Andrews, the Council voted to allow delegates discretion in joining other states for the caucus, provided the Society is not obligated to additional expenditures.
5. Councilors from the ninth district nominated Dr. J. Y. Massey of Mountain Home for a vacancy on the district Professional Relations Committee. Upon motion of Warren, the Council approved the appointment of Dr. Massey to the committee.
6. Thomas Bruce, Dean of the Medical School, was scheduled to discuss a proposed addition of a penalty clause to the Rural Practice Loan Fund but was unable to be present. The proposal was discussed by Payton Kolb and Robert Watson, members of the Board for the Loan Fund. The Council took no action on the matter.

7. William Jones discussed the desirability of outside consultants in the work of the committee studying the location of the headquarters office. In accordance with action of the House, the committee should contact the Council for approval of such an expenditure as necessary if, in the course of its study, it needed outside expert consultation. Dr. Jones moved that the Council authorize the committee to expend up to \$15,000 for service of a consulting firm. By standing vote, the motion was defeated. Upon motion by Shuffield, the Council voted to poll the Council regarding the expenditure of funds for the consulting firm if a request for funds is received from the committee prior to the next meeting of the Council.
8. Upon motion of Warren, the Council authorized expenses for Payton Kolb and Mr. Warren to attend a national conference on the impaired physician.

The meeting adjourned at 2:20 p.m.

APPROVED: John P. Burge, M.D.

Chairman of the Council

* * * *

REPORT OF AMA ANNUAL CONVENTION

June 1978

St. Louis, Missouri

Purcell Smith, Jr., M.D., Delegate

This summary covers the most important matters considered during the Annual Convention in St. Louis, but it is not meant to be a complete report of all actions taken. The June 30 - July 7 convention issue of AMERICAN MEDICAL NEWS and the July 14 issue carry discussion of all House actions.

Elections:

Hoyt D. Gardner, a native of Arkansas now living in Louisville, Kentucky, was named President-Elect. Tom Nesbitt of Nashville, Tennessee, was installed as AMA President. William Rial of Pennsylvania was reelected Speaker and Harrison Rogers, Jr., of Georgia was reelected Vice-Speaker of the House of Delegates. Reelected to the Board of Trustees were Joseph Boyle of California, Max Cole of Texas, and Robert Hunter of Washington. Newly elected Trustees were William Hotchkiss of Virginia and George Rowland of Pennsylvania.

Report of the AMA President:

Dr. Tom Nesbitt in his inaugural address particularly emphasized cost containment and encouraged restraint in the rate of growth of physicians' fees by 1% each year over the next two years. He pointed out that physicians' fees have been rising at about 9% each year, compared to the Consumer Price Index rise of 7% each year. Thus, his proposal would bring physician fees in line with the 7% figure in two years.

Summary of Actions of the House of Delegates:

This Convention was unusual in several respects. First there were more than 300 recommendations, reports, and resolutions to be acted on, and this was by far the most business ever presented to any AMA meeting. Second, this was the first AMA House of Delegates Meeting in which specialty organizations were represented on a direct basis. There were more than 50 specialty societies represented. Third, this was the last Annual Meeting in which the House of Delegates and the Scientific Sessions met together. In the future, there will be no Scientific Sessions in conjunction with the summer AMA Delegates Meeting, due to a change to regional seminar programs.

Report On National Commission On Cost of Medical Care:

The National Commission on the Cost of Medical Care was established by AMA Board of Trustees, but was organized as an independent organization. Its membership consisted of representatives of medicine, industry, labor, and government. Half of the Commissioners were non-physician. The Commission Chairman was Dr. Max Parrott of Portland, Oregon, a past president of AMA. The Commission report centered around 48 recommendations, and the Board of Trustees' response to each of these recommendations. The House of Delegates acted on the response of the Board of Trustees, since the Commission's recommendations were its own and could not be changed. In summary, the actions taken by the House of Delegates were as follows:

1. The House endorsed a statement that "the House of Delegates believes that the one hope for cost containment in the provision of health care lies in strengthening price consciousness in the health care marketplace."
2. The House endorsed the Commission's initial recommendations dealing with consumer price

consciousness. The principles covered in these recommendations included giving employees a periodic informed choice among various health care coverage options, giving employees economic incentives to shop for cost-effective health care coverage, and providing for employee participation in cost decisions through co-insurance and deductibles.

3. A number of Commission recommendations dealt with the assessment of quality in medical care and the use of standards and guidelines for care. In general, the House asked that the Board of Trustees and Councils look again at this area and submit recommendations for consideration in the future.
4. The House also endorsed Commission recommendations urging experimentation with prospectively determined rates and other payment systems that can make the administration of health facilities more cost conscious. The House endorsed the use of voluntary programs and incentives to limit bed capacity to the needs of the population served by individual hospitals and the use of experimental programs to decertify facilities that appear to be unnecessary.
5. The matter of public utility regulation was addressed by several recommendations. In general, the House asked for a moratorium on new regulations in the health area and a thorough evaluation of existing regulations. One of the Commission's recommendations emphasized the economic impact of regulations, a fact of life that is gaining increased attention in areas other than medicine.
6. Recommendations calling for standards for the placement of expensive technical equipment and for the use of regional centers for high-cost specialized technologies were referred to the Board for study and report in December.
7. The question of the adequacy of physician supply was addressed by several recommendations, and the House agreed that this entire issue deserved additional study by the Board and the Councils. We have moved rapidly from a perceived physician shortage to a period wherein we have exceeded society's and our own goals for the increased production of physicians.
8. The concluding recommendations from the Commission called for the physicians to re-

ceive additional information about the cost of services, both in undergraduate and graduate training and in the hospital setting, for the rapid dissemination of information about new technologies, and for a broad new approach to patient education that is consistent with the goals of our times. Most of these were adopted by the House.

Medical Ethics:

A second major issue before this session of the House was a proposed revision of the Principles of Medical Ethics. In the main, the revisions have been described as both an updating of the language to reflect modern day usage and a response to legal restrictions on the health professions that have been written into state laws over the years. Concern was expressed over the interpretation that could be given some portions of the revised Principles, and the House voted to refer the revisions to an ad hoc committee of the House for study and report on December.

National Health Insurance:

Five resolutions dealing with National Health Insurance were referred to the Board of Trustees with the request that any AMA sponsored National Health Insurance proposals to be introduced in the Congress next year be circulated to the House in advance of the 1978 Interim Meeting. The AMA's current proposal in Congress will die at the end of the year if not enacted, and it does not appear that Congress will make a final decision. The AMA has had a National Health Insurance proposal in Congress since 1970.

Membership:

The House voted to offer membership at a 50% dues level to those physicians who are in their first year of practice. The house also approved reorganization of the Student Business Section to provide for a representative assembly composed of voting delegates for each of our nation's medical schools. In 1977, the AMA had more than 28,000 student and resident members; one out of eight AMA members is a student or resident.

AMA - ERF

The report of AMA Education and Research Foundation was again encouraging, but apparent need for loans is increasing more rapidly than funds available. The American Medical Association Auxiliary again reported a record contribution to AMA - ERF, of over \$1,500,000.

keeping up

Category 1 Continuing Medical Education Programs Available in Arkansas

"THE USE OF THE VASCULAR LABORATORY IN A GENERAL HOSPITAL"

Jeff Raines, Ph.D., Hot Springs. Sponsored by St. Joseph's Mercy Medical Center; Red Room (third floor conference room) at St. Joseph's, Hot Springs. *TUESDAY, OCTOBER 3, 1978*, at 12:00 noon. One hour Category 1 credit. Open to all physicians. \$5.00 registration fee which includes luncheon. No fee for St. Joseph's medical staff members.

"PEDIATRIC UPDATE"

Dr. Robert H. Fiser, Chairman, Department of Pediatrics, and Dr. Neil H. Sims, Professor, Department of Pediatrics, program directors. Sponsored by the University of Arkansas College of Medicine. Arkansas Mental Health Services Auditorium, Little Rock. *8:00 a.m. to 5:00 p.m. FRIDAY and 8:00 a.m. to 12 noon on SATURDAY, OCTOBER 6 and 7, 1978*. Ten hours of Category I credit. \$65.00 tuition. Luncheon on October 6th at Pleasant Valley Country Club included in course tuition fee. \$12.50 additional charge for dinner guests of participants. Toll free information 1-800-482-5578.

"MANAGING YOUR SUCCESSFUL MEDICAL PRACTICE"

Dr. Neil H. Sims, Director, Continuing Education for Physicians. Sponsored by the University of Arkansas for Medical Sciences and the Office of Continuing Education for Physicians. UAMS Education II Building, Ground Floor, Room 141 A-B, Little Rock. *SATURDAY, OCTOBER 14, 1978, 8:30 a.m. to 5:00 p.m.* Seven hours Category I credit. Registration fee is \$60.00 with luncheon in Jeff Banks Student Union Lounge included in course tuition fee. Toll free information 1-800-482-5578.

"THE PHYSICIAN AND THE SUICIDAL PATIENT"

Dr. Robert Matthews, Program Director. Sponsored by the Arkansas Branch of the American Psychiatric Association, Veterans Administra-

tion Hospital in Little Rock, and the University of Arkansas for Medical Sciences Office of Continuing Education for Physicians. *FRIDAY, OCTOBER 27, thru SUNDAY, OCTOBER 29th, 1978*, Little Rock Hilton Inn, 925 South University. Registration 5:00 p.m. October 27th, keynote address 8:00 p.m., Program Saturday, October 28th, 8:00 a.m. until 6:00 p.m., Sunday, October 29th, from 9:00 a.m. until 1:00 p.m. Eleven hours Category 1 credit toward the Physician's Recognition Award and eleven hours prescribed credit by the American Academy of Family Physicians. Registration fee is \$50.00. Banquet on October 27th at Hilton Inn of \$10.50 is not included in the course fee. Toll free information 1-800-482-5578.

"UPDATE ON LIPIDS"

Dr. Phillip Eaton, Program Director. Sponsored by St. Joseph's Mercy Medical Center, Hot Springs. Third floor conference room (Red Room) at St. Joseph's. *TUESDAY, NOVEMBER 7, 1978, 12:30 p.m.* One hour Category I credit. Open to all physicians. \$5.00 registration fee, which includes luncheon. No charge for medical staff members of St. Joseph's.

"UTERINE CERVICAL CANCER WORKSHOP"

Dr. Ruth C. Steinkamp, Program Director. Sponsored by the Arkansas State Department of Health and Continuing Education for Physicians, and the University of Arkansas for Medical Sciences. Arkansas Mental Health Service Auditorium, in Little Rock. *THURSDAY, NOVEMBER 9, 1978, 9:00 a.m. until 4:00 p.m.* Five hours Category I credit. Course fee and/or meal charges, if any, have not been determined at this time. Toll free information 1-800-482-5578.

"INTERNAL MEDICINE FOR THE FAMILY PRACTITIONER"

Dr. George L. Ackerman, Program Director. Arkansas Mental Health Services Auditorium, Little Rock, *FRIDAY, NOVEMBER 10th thru SATURDAY, NOVEMBER 11th, 1978*. Regis-

As organizations accredited for continuing medical education by the Liaison Committee on Continuing Medical Education, the organizations named certify that these continuing medical education activities meet the criteria for the credit hours specified in Category I of the Physician's Recognition Award of the American Medical Association.

tration 8:15 a.m. Friday, adjournment 4:00 p.m.. Program from 8:00 a.m. until 12 noon on Saturday. Ten hours Category I credit toward Physician's Recognition Award. Tuition fee is \$100 with luncheon at Jeff Banks Student Union Lounge on Friday, and social hour and dinner on November 10th at the Country Club of Little Rock included in the course fee. Toll free information 1-800-482-5578.

"DIAGNOSTIC IMAGING"

Dr. Ernest T. Farris, Program Director. Sponsored by the University of Arkansas College of Medicine. Camelot Inn in Little Rock. *SATURDAY, NOVEMBER 18th, 12:00 noon until 4:30 p.m., and SUNDAY, NOVEMBER 19th, 8:30 a.m. until 3:30 p.m.* Credit hours and fees have not been established at this time.

* * * *



THINGS TO COME

OPHTHALMOLOGY/OTOLARYNGOLOGY MEETING

The Kansas City Society of Ophthalmology and Otolaryngology will hold its annual clinical meeting on November 30 through December 1, 1978, at the Hilton Plaza Inn in Kansas City, Missouri.

This Continuing Medical Education offering meets the criteria for twelve hours of credit in Category I of the Physicians Recognition Award of the American Medical Association.

Reservations and/or additional information can be obtained by contacting Mario J. Guastello, M.D., President, or Mr. Roger A. Weis, Executive Director, at the Society's executive office: 3036 Gillham Road, Kansas City, Missouri 64104. Telephone: AC 816-531-8432.

ANNUAL HAIR TRANSPLANT SYMPOSIUM

The annual Hair Transplant Symposium and Workshop will be held in Hot Springs, January 25 through 27, 1979. It is sponsored by the American Academy of Facial Plastic and Reconstructive Surgery and endorsed by the American Society for Dermatologic Surgery. Registration fee is \$720.00. Please contact D. B. Stough, III, M.D., Program Director, Doctors Park, Hot Springs, Arkansas 71901, for additional information.

PEDIATRIC DERMATOLOGY SEMINAR

The sixth Annual Pediatric Dermatology Seminar will be held February 17 through the 25th,

1979, while cruising in the Galapagos Islands. There will be daily lectures and continuing medical education credit will be given.

The tuition is \$150 and the group tour is \$1,290. The tour includes round trip air fare, two days and one night at the Grand Hotel on Guaquil, seven-day cruise aboard the *M/V Buccaneer*, most meals, and baggage handling and gratuities are included. Space is limited so reservations should be made as soon as possible.

For further information please contact Guinter Kahn, M.D., 16800 N.W. Second Avenue, North Miami Beach, Florida 33169, or telephone AC 305-652-8600.

SOUTHERN CLINICAL NEUROLOGICAL SOCIETY

"Recent Advances in Neurology" will be the program at the sixth annual meeting of the Southern Clinical Neurological Society scheduled for January 22 through 26, 1979. The meeting will be held at Pier 66 Hotel, Fort Lauderdale, Florida. Program chairman is Dr. William L. Griggs, Holt-Krock Clinic, Fort Smith. For further information contact Dr. B. J. Wilder, Secretary, Southern Clinical Neurological Society, University of Florida Hospital, Gainesville, Florida.

UNIVERSITY OF TEXAS CME COURSE

The Department of Internal Medicine of the University of Texas Medical School at Houston will present a course, "Comprehensive Management of Urgent Medical Problems—An Approach to the Diagnosis and Treatment of the Adult Emergency Room Patient," on November 13th thru the 17th, from 8:00 a.m. until 5:00 p.m. each day at Stouffer's Hotel, Greenway Plaza, Houston, Texas. The course is approved by the American College of Emergency Physicians for

forty hours of ACEP Category I credit, is acceptable for forty prescribed credit hours by the American Academy of Family Physicians, and meets the criteria for forty hours credit in Category I of the Physician's Recognition Award.

The course is limited to one hundred and fifty

physicians and registration is open to all specialties. Course fee is \$325. For additional information contact the Division of Continuing Education, University of Texas Health Science Center at Houston, Post Office Box 20367, Houston, Texas 77025; or telephone AC 713-792-4671.



PERSONAL AND NEWS ITEMS

DR. BORNHOFEN LOCATES

Dr. John H. Bornhofen has joined Neurology Associates at 300 Medical Towers Building in Little Rock. He is associated with Drs. Samuel W. Boellner, Robert C. Galbraith, Gordon L. Gibson, G. Morrison Henry, and Coburn S. Howell, Jr. Dr. Bornhofen specializes in Pediatric Neurology.

DR. ANDREASEN LOCATES

Dr. Raymond L. Andreasen has begun practice at 1211 West Walnut in Rogers. Dr. Andreasen is a Family Physician and had previously been in practice at the Inlow Clinic in Shelbyville, Indiana.

DR. HENDERSON APPOINTED

Dr. Francis M. Henderson of Pine Bluff has been appointed to serve for two years on the national advisory panel of the American Hospital Association's new Center for Small or Rural Hospitals. Dr. Henderson is a Pediatrician and serves as the president of Health Management Associates in Pine Bluff.

DR. McAULEY TO CLARKSVILLE

Dr. John R. McAuley has joined the Clarksville Medical Group in Family Practice. Dr. McAuley is a graduate of the University of Arkansas College of Medicine and recently completed his residency training at John Peter Smith Hospital in Fort Worth, Texas.

DR. ROBERTS LOCATES

Dr. Franklin D. Roberts has completed a two

year residency in Family Practice in Fort Smith and is associated with Dr. Rodney L. Griffin and Dr. Jack T. Walker at their clinic in Magnolia.

DR. REYNOLDS RELOCATES

Dr. Roland C. Reynolds has relocated in Newport where he is associated with the Harris Hospital and Clinic specializing in Family Practice. Dr. Reynolds was previously in practice at 801 Osler Drive in Jonesboro for four years.

DR. WEBB ESTABLISHES PRACTICE

Dr. Russell Webb has begun practicing in Mountain Home. His office is in the Mountain Home Professional Building where he specializes in Urology. Dr. Webb served in the United States Army as Chief of Urology at Fort Sill, Oklahoma, prior to locating in Mountain Home.

DR. WESTBROOK AWARDEE

The Distinguished Faculty Award was presented to Dr. Kent C. Westbrook at the tenth annual Caduceus Club Alumni Weekend recently held in Little Rock. Dr. Westbrook is the Associate Professor of Surgery at the University of Arkansas College of Medicine. The award was presented by Dr. Asa Crow of Paragould.

DR. MACKEY LOCATES

Dr. Michael Mackey has begun practice at the Northeast Arkansas Internal Medicine Clinic in Jonesboro. He is a graduate of the University of Arkansas College of Medicine and he is specializing in Internal Medicine and Nephrology. Dr. Mackey will be in charge of the new Dialysis

Clinic at St. Bernard's Regional Medical Center in Jonesboro when it is completed.

HOLT-KROCK CLINIC ADDITIONS

New members of the medical staff at Holt-Krock Clinic in Fort Smith are Dr. Ronald A. Bordeaux, Department of Gastroenterology; Dr. R. Cole Goodman, Department of Plastic and Reconstructive Surgery; and Dr. David R. Nichols, Department of Pulmonary Diseases.

DR. KLEPPER LOCATES

Dr. Charles R. Klepper has become associated with Dr. O. B. McCoy at 220 North Walnut in Harrison. Dr. Klepper was born in Harrison and received his medical degree from the University of Arkansas College of Medicine. He will specialize in Internal Medicine.

DR. EANS JOINS CLINIC

The Saltzman-Guenther Clinic in Mountain Home has gained a new associate. Dr. Thomas Eans is in General Practice and a graduate of the University of Arkansas College of Medicine. Prior to entering medical school, Dr. Eans worked on the Sprint Missile and the Skylab Space Program for McDonnell-Douglas Corporation. His primary duties were designing mathematical models and computer program for the purpose of analyzing the performance of missiles and spacecraft.

DR. ROBINSON HONORED

The community of Dumas set aside July 23rd as a day of recognition for Dr. Guy U. Robinson. Dr. Robinson has been in Family Practice in Dumas for thirty years and has been an active member of the community serving as a member of the city council and school board. He has served as school board president for eight years. Dr. Robinson has also been president of the Chamber of Commerce and Lions Club.

DR. DEDMAN BEGINS PRACTICE

Dr. John D. Dedman has joined Medical Associates of Pine Bluff in the practice of Internal Medicine. Dr. Dedman is a graduate of the University of Arkansas College of Medicine. Other members of the medical staff are Dr. John Crenshaw, Dr. Raymond A. Irwin, Jr., Dr. Sanford C. Monroe, Dr. George B. Talbot, Dr. C. Clyde Tracy, and Dr. Walter J. Wilkins, Jr.

PHYSICIANS ELECTED

Dr. Joe E. Hughes has been elected president-elect of the Lawrence Memorial Hospital medical

staff, and Dr. Ralph F. Joseph was elected secretary-treasurer. Dr. Hughes is a Family Physician and Dr. Joseph is an Internist in Walnut Ridge.

DR. JOHNSON HAS ASSOCIATE

Dr. Richard Johnson of Little Rock has been joined in practice by Dr. Micheal Selby. Their practice of Obstetrics and Gynecology is located in Suite 611 of the Doctors Building at 500 South University in Little Rock.

PHYSICIANS BEGIN PRACTICE

Dr. Marsha T. Howell has opened her office in the Doctors Park Building, Suite 120, in Little Rock. Dr. Howell specializes in Obstetrics-Gynecology.

Dr. Wandel D. Money and Dr. Mary L. Ragsdill have begun practice with the North Little Rock Neurology Group.

DR. STUDDARD JOINS GROUP

Dr. James D. Studdard has joined Drs. Orman W. Simmons, James T. Y. Kwee, and Douglas B. Smith in the practice of Obstetrics-Gynecology at 310 Doctors Park Building in Little Rock.

DR. SEILER LOCATES

Dr. Warren B. Seiler, Jr., has begun practice at 500 South University in Little Rock. Dr. Seiler specializes in Child and Adolescent Psychiatry.

DR. KALER LOCATES

Dr. Ron A. Kaler has joined Drs. Vernon E. Sammons, Robert L. Hill, and Gary N. Meek in General Surgery in Hot Springs. Dr. Kaler is a graduate of Vanderbilt University Medical School in Nashville, Tennessee.

DR. BURTON JOINS CLINIC

Dr. James F. Burton, son of Dr. Frank M. Burton, Hot Springs, has joined the Burton-Eisele Clinic in Hot Springs. Dr. Burton is a graduate of the University of Arkansas College of Medicine.

DR. SANDERS PRESENTED WITH AWARD

Dr. Cal R. Sanders of Camden was recently presented an award for his services on the advisory committee of the Red River Vocational School. Dr. Sanders has served on the committee for the past two years.

DR. EAKIN LOCATES

Dr. Donald G. Eakin has begun practice in Star City. Dr. Eakin is a graduate of the University of Texas Health Science Center in San Antonio.

DR. BATTLES JOINS CLINIC

Dr. Larry D. Battles has joined the Millard-

Henry Clinic in Russellville. Dr. Battles is a graduate of the University of Arkansas College of Medicine and he will specialize in Gynecology.

DR. FISER SPEAKS

Dr. Robert Fiser spoke recently to a meeting of the Arkansas Chapter of the "Candlelighters Foundation" at the Arkansas Children's Hospital in Little Rock. The Candlelighters is an organization of parents whose children have cancer. Dr. Fiser is with the Department of Pediatrics at the University of Arkansas College of Medicine.

DR. LIPSMAYER LOCATES

Dr. Keith M. Lipsmeyer has joined Dr. Clifford Evans in Family Practice at Perryville. Dr. Lipsmeyer is a native of Perry County and a graduate of the University of Arkansas College of Medicine.

DR. STERNBERG SPEAKS

Dr. Jack J. Sternberg of Little Rock recently spoke to the Jefferson County Medical Assistants Association in Pine Bluff. Dr. Sternberg is an Oncologist and spoke to the group regarding the team approach treatment of the cancer patient.

DR. WOLEJKO LOCATES

Dr. Raymond E. Wolejko has begun practice in West Memphis in association with the National Health Service Corps. Dr. Wolejko is an Internist and will serve a two-year term in West Memphis.

DR. SALTZMAN HEADS COMMITTEE

Dr. Ben N. Saltzman of Little Rock was recently appointed chairman of the Health, Hunger and Humanity Committee of Rotary International. Dr. Saltzman was appointed to the position by Mr. Clem Renouf of Nambour, Queensland, Australia, president of Rotary International.

DR. DAVIDSON RELOCATES

Dr. Dennis Davidson, who formerly practiced at Stephens, recently moved his practice to Batesville. Dr. Davidson has been in General Practice in Stephens for two years.

NEW CLINIC FOR IMBODEN

Dr. Jackie White has begun practice in the new Imboden Medical Clinic. Dr. White is a graduate of the University of Arkansas College of Medicine and just completed a year of Family Practice residency.

SEARCY PHYSICIANS SPEAKERS

Two Searcy physicians recently spoke at the

Mental Health Workshop held on August 7 through the 10th at Harding College in Searcy. Dr. Thomas A. Formby, who is a Family Physician, spoke on "The Problems of the Elderly" and "Problems of Marriage and the Family." Dr. William D. White is an Internist and spoke on the relationship between the Bible and mental health.

DR. DILDY LEAVES PRIVATE PRACTICE

Dr. Edwin Dildy assumed a position with the regional health center in Nashville on September 1st. Dr. Dildy had been in general practice in Nashville for forty years prior to assuming his new position.

SALINE MEMORIAL STAFF

Dr. David L. Stewart has been named chief of staff of the Saline Memorial Hospital in Benton. Also elected were Dr. Ralph Cash, vice-chief of staff, and Dr. R. A. Council, Jr., secretary-treasurer. The officers will serve two-year terms.

DR. WEISSE NAMED

Dr. John Weisse of Fort Smith has been named to the St. Edward Mercy Medical Center Board of Advisors. Dr. Weisse is a Thoracic and Cardiovascular Surgeon in Fort Smith and an assistant clinical professor at the University of Arkansas College of Medicine, Department of Surgery.

ROGERS PHYSICIANS RETIRE

Dr. Neil E. Compton and Dr. William E. Jennings retired from active practice in Rogers recently. Both physicians have been in General Practice in Rogers for more than thirty years. They are graduates of the University of Arkansas College of Medicine.

DR. SMITH RELOCATES

Dr. Wayne Smith, who has been in practice in Heber Springs for the past ten years, recently moved to Hardy. Dr. Smith is a General Practitioner.

DR. HOLDER TO BENTONVILLE

Dr. Robert Holder has joined the Bentonville Medical Associates in Family Practice. Dr. Holder recently completed his residency training at the University of Arkansas Medical Center in Little Rock.

DR. SLATER BECOMES ASSOCIATED

Dr. John G. Slater, Jr., has joined Drs. Samuel B. Thompson, John D. Christian, William L. Steele, and Richard J. Nasca in the practice of Orthopaedics in Little Rock.



Dr. Dennis receives plaque from Dr. Wynne.

DR. DENNIS PRESENTED COUNCIL RESOLUTION

Dr. George Wynne presented Dr. James L. Dennis with the Council's resolution in recognition of his service as Chancellor of the University of Arkansas for Medical Sciences.



NEW MEMBERS

DR. DANIEL STEVENSON

The Pulaski County Medical Society has added Dr. Daniel (Dick) Stevenson to its membership roll, as a resident member. Dr. Stevenson is a native Arkansan and received his pre-medical education at Arkansas State University. He was graduated from the University of Arkansas College of Medicine in 1976, and is a Surgery resident at the University of Arkansas Medical Center.

DR. JOHN L. DAUGHERTY

The Pulaski County Medical Society has accepted Dr. John L. Daugherty as a resident member. Dr. Daugherty was born in Arkadelphia and received his B.A. and M.S. degrees at the University of Arkansas in Fayetteville. He was graduated from the University of Arkansas College of Medicine this year, and has entered his first year of Family Practice residency at the Medical Center.



OBITUARY

DR. NOEL W. COWAN

While vacationing with his family in the Colorado Rocky Mountains, Dr. Noel W. Cowan of Texarkana died of injuries suffered in a vehicle accident on August 4, 1978.

Dr. Cowan was born December 31, 1933, at Lampasas, Texas. He received his medical degree from the University of Texas Medical Branch in Galveston in 1967, and began practice in Texarkana at the Southern Clinic in 1970. Dr. Cowan was a member of the Board of Directors of Wadley Hospital in Texarkana and a past president of Bowie (Texas) County Medical Society. Dr. Cowan was a member of Beech Street First Baptist Church and a division director of the Adult Sunday School Classes. He had also served on the Church Board of Deacons. Dr. Cowan served in the United States Navy and was active in community and civic affairs.

He is survived by his wife, Pansy Faith Cowan, and two children, Taylor and Amy of Texarkana.

DR. JAMES J. WYLLIE

Dr. James J. Wyllie of Pocahontas died July 20, 1978. Dr. Wyllie was born March 11, 1914, in Pocahontas and was graduated from Louisiana State University Medical School with honors in 1943. During his four years of medical school, he served as an assistant to the Coroner in Orleans Parish, being the only freshman ever employed by the State of Louisiana in that capacity. Upon completion of his medical degree, Dr. Wyllie served an internship at Charity Hospital of Louisiana in New Orleans, and also a surgical residency there and at the Veterans Administration Hospital in Little Rock.

Dr. Wyllie served as a surgeon in several army hospitals until he retired in 1948. He began private practice in Orange, Texas, in 1948, and in 1966, he began practice at Pocahontas.

Dr. Wyllie had served as chief of staff of the Lawrence Memorial Hospital in Walnut Ridge.

Dr. Wyllie is survived by his wife, Edna Mae, and nine children. He was a member of St. Paul's Catholic Church in Pocahontas.

October, 1978

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Warnings: Not of value in psychotic patients. Caution against hazardous occupations requiring complete mental alertness. When used adjunctively in convulsive disorders, possibility of increase in frequency and/or severity of grand mal seizures may require increased dosage of standard anticonvulsant medication, abrupt withdrawal may be associated with temporary increase in frequency and/or severity of seizures. Advise against simultaneous ingestion of alcohol and other CNS depressants. Withdrawal symptoms (similar to those with barbiturates and alcohol) have occurred following abrupt discontinuance (convulsions, tremor, abdominal and muscle cramps, vomiting and sweating). Keep addiction-prone individuals under careful surveillance because of their predisposition to habituation and dependence.

Usage in Pregnancy: Use of minor tranquilizers during first trimester should almost always be avoided because of increased risk of congenital malformations as suggested in several studies. Consider possibility of pregnancy when instituting therapy; advise patients to discuss therapy if they intend to or do become pregnant.

Precautions: If combined with other psychotropics or anticonvulsants, consider carefully pharmacology of agents employed, drugs such as phenothiazines, narcotics, barbiturates, MAO inhibitors and other antidepressants may potentiate its action. Usual precautions indicated in patients severely depressed, or with latent depression, or with suicidal tendencies. Observe usual precautions in impaired renal or hepatic function. Limit dosage to smallest effective amount in elderly and debilitated to preclude ataxia or oversedation.

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hypotension, changes in libido, nausea, fatigue, depression, dysarthria, jaundice, skin rash, ataxia, constipation, headache, incontinence, changes in salivation, slurred speech, tremor, vertigo, urinary retention, blurred vision. Paradoxical reactions such as acute hyperexcited states, anxiety, hallucinations, increased muscle spasticity, insomnia, rage, sleep disturbances, stimulation have been reported should these occur, discontinue drug. Isolated reports of neutropenia, jaundice, periodic blood counts and liver function tests advisable during long-term therapy.



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NEWS—Our readers are requested to send in items of news, also marked copies of newspapers containing matter of interest to the membership.

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The Radiotherapy Stent — An Adjuvant to Therapy

Matthew J. Jackson, DMD, MSD*

RATIONAL FOR RADIATION STENTS

Today's therapeutic approach toward cancer is a multi-faceted regimen. This includes surgery, radiotherapy, chemotherapy, and immunotherapy. As a result, the cure rate has increased permitting people afflicted with cancer to live longer, better, and more productive lives.

There can be many sequelae of therapy which can be disfiguring even though the cancer is cured. This often occurs with head and neck surgery. However, radiotherapy often has some devastating side effects. Careful treatment planning is imperative in order to prevent soft and hard tissue necrosis. The end result of necrosis can be the loss of the mandible and maxilla. In addition, there develops a mucositis and decreased salivation which develops during therapy and lasts for varying periods of time after therapy has been terminated.

Today, the patient demands more than solely the preservation of life. The patient requires rehabilitation and restoration of form and function. With careful planning, radiation stents, cone locators, tissue displacers, and/or shields can be devised preventing some of the sequelae of head and neck irradiation (figure 1a, b, c).

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Figure 1a.

Looking into the prosthetically constructed barrel of a cone locator stent which holds the position of the radiation source. Note tumor and margin.

RADIOTHERAPY

Close collaboration between the prosthodontist and the radiotherapist can accomplish these goals,



Figure 1b.

Tissue displacer in place positioning the maxilla and lower lip out of the field of radiation, and depressing and holding the tongue in the field of radiation. Porte film confirms objectives.



Figure 1c.
Shield prosthesis in place. Metal inserts provide protection for the buccal gingiva and tongue, as well as displacing the tongue to the left out of the irradiated field.

that is, the best treatment regimen for the patient. Stokke stated,

"As a rule the biological effect of radiation given is harmful. The nature and degree of damage will however, depend on many factors such as the radiation dose, the extent and localization of the irradiated area, the mode of administration, and the quality and penetrating power of the radiation".¹

With this concept in mind, the prosthodontist and the therapist can plan a prosthesis minimizing the harmful effect of radiation.

A team approach is necessary. The radiotherapist outlines the area to be treated while the prosthodontist must analyze and explain the limitations encountered in the construction of the stent. The size and shape of prosthesis depends on the fields of radiation planned for any given primary site. The desired amount of opening of the mouth likewise depends on the objectives of the prosthodontist and therapist. The consequences of the prosthodontist's design can be assessed at the completion of therapy and thereafter. A sharply defined exudative mucositis is the best evidence that the geometry of the treatment has been reproduced at every period of irradiation. Post treatment sequelae can often be predicted.²

The complications of irradiation of the head and neck tissues can be manifested in numerous ways. The effects of irradiation on oral tissues may be summarized as follows:

- 1) edema
- 2) mucositis
- 3) trismus
- 4) xerostomia
- 5) decaying teeth

- 6) increased sensitivity of teeth
- 7) early wearing of occlusal and incisal edges
- 8) necrosis of soft and hard tissues.^{3, 4, 5}

Bone and tissue necrosis can be a life treating sequelae, besides leaving the patient disfigured and interfering with proper function.

After treatment, the tissues in the irradiated field are compromised. Couple this situation with a patient who is already compromised results in hazardous management problems.

Often head and neck cancer patients are alcoholics, smokers, elderly, etc. All these factors tend to increase necrosis. The age, nutritional status, overall health, alcoholism, diabetes, negative N balance, all effect healing to increase the problems. Clinically, the characteristics of irradiated soft and hard tissues are:

- 1) impaired normal metabolism
- 2) increase susceptibility to infection
- 3) extremely limited or non-existent ability of repair.⁴

The other chief problem of the irradiated patient is the severe rampant post irradiation decay of the teeth in the treatment field or when the major salivary glands receive a therapeutic dose of irradiation.

The consequences of radiation therapy are severe even if the cancer is cured. Jerbi summarized the need for treatment prosthesis as follows:

- 1) to outline and define fields of treatment
- 2) to assist with the proper direction of the radiation beams
- 3) to provide protection for contagious normal tissues
- 4) to displace the tongue, lips, or cheeks
- 5) to serve as carriers for radium sources
- 6) to facilitate patient set-ups
- 7) to permit duplication of the treatment arrangement
- 8) to insure accuracy of the beam direction
- 9) to simplify dosimetry in the tumor and normal tissue.^{6, 7}

Prosthetically, the stent and/or shield must meet some general requirements. They may be summarized as follows:

- 1) comfort
- 2) minimal weight
- 3) stability
- 4) accuracy
- 5) self-retaining
- 6) minimal adjustments
- 7) breakage resistance

- 8) easy to repair
- 9) easy to clean
- 10) allows the patient to breathe without much effort
- 11) allows visualization of the tissues
- 12) easy to place and remove.²

SUMMARY

A brief description has been presented indicating the problems involved in treatment and management of patients receiving therapeutic irradiation to the head and neck. Close co-operation between the radiotherapist and prosthodontist can minimize these problems. The proper management of patients demands a team approach.

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Hearing Aid Delivery: An Expansion of Medical Services

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A 1971 national health survey report estimated that 13.2 million persons in the United States had substantial bilateral hearing impairment. A Hearing Aid Industry Conference study (1975) estimates that there are approximately some 10 million hearing impaired persons who have not received medical attention. This data also indicates that there are an estimated 2.5 million hearing aid users; the industry postulates that an additional 7.5 million persons could benefit from the use of amplification. In the past, approximately 70% of those persons wearing an aid have gone directly to a hearing aid dealer rather than to a physician and/or an audiologist. These statistics indicate the need for an immediate comprehensive assault by the medical community on one of the nation's foremost health needs.

Currently, in the United States, we are in a period of transition in the hearing aid delivery system. Due to technological and legislative developments, broad changes have developed clinically along with a philosophical change in the manner in which professionals view their roles regarding provision of amplification.

Since 1902, when the first commercially available electric hearing aid was introduced in this country, many changes have occurred. Over the years, with expanded marketing procedures, as well as continually increasing possibilities for the complexity of hearing aid circuitry, an on-the-job training procedure developed for those who became involved in retail selling of aids. Thus, those dealers who had originally been involved in the sale of a relatively simple amplifier became confronted through the evolutionary process in the science of measuring hearing sensitivity as well as fitting instruments with myriad possibilities in terms of circuit design. Because of these technological advances, professional involvement in aid fitting has become a necessity. Today, to insure the proper fitting of an aid, a thorough evaluation of many parameters of the hearing loss is required, an evaluation which can only be

provided by the professional services of an otolaryngologist and an audiologist.

Family practice physicians should be aware of recent legislative actions which have increased the role of the physicians in regard to hearing aid fittings. The United States Food and Drug Administration enacted a far-reaching ruling in August, 1977, regarding hearing aid delivery in this country. This FDA ruling requires: "clearance of a physician, preferably an otolaryngologist, within six months of the time an aid is fitted; a waiver of this requirement is allowed for responsible persons over 18 years of age who have personal or religious beliefs which preclude a visit to a physician; no waiver is to be allowed in the presence of specifically listed pathological conditions of the ear." In addition, the FDA ruling restricts certain advertising policies and material disclosures to consumers. The United States Federal Trade Commission has also put forth a set of proposed regulations regarding hearing aid delivery. The primary portion of the FTC regulations revolves around a mandatory trial, or the "buyer's right to cancel". In addition, the FTC has drawn up strict regulations regarding disclosures to consumers in advertising, selling practices and contractual relationships. Both of these regulations have as their basis several years of federal government study through the Department of Health, Education and Welfare regarding problems with the hearing aid delivery system. Several bills have been submitted before both Houses of Congress regarding inclusion of hearing aids in Medicare coverage; these bills are currently under consideration in the Ways and Means Committee.

These changes in legislation, in technology and in the consumer-patient outlook have resulted in a growing movement regarding the redefinition or reshaping of professional roles. A transition period has resulted both in professional philosophies and in actual dispensing systems. Many otolaryngologists have incorporated the fitting of a hearing aid as a part of the continuing care of their patients. Philosophically, this change allows the otolaryngologist to provide as complete a

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system of hearing health care as possible for any patient, whether that patient's needs are medical, surgical and/or prosthetic. At present, in Arkansas, along with our clinic there are ten other otolaryngology clinics providing a hearing aid dispensary as a part of their services.

The traditional hearing aid delivery system involving physician referral of patients to hearing aid salespeople has been wrought with a number of problems. Using a referral system involved a fragmentation of the rehabilitative process with a loss of professional control. This, of course, resulted in patient dissatisfaction due, at least in part, to the variable quality of dispensing sources. In addition, using a referral system, the patient was lost to continued professional care and follow-up.

One attempt by otolaryngologists to change the referral system has been the use of what is known as prescription referral or warehouse system. In this method, a patient receives a recommendation for a specific hearing aid based on interpretation of manufacturer's specification information or based upon cursory evaluation using a demonstrator instrument. The patient is then referred to a dealer to purchase the recommended model. In this system, however, experience has shown that the response of the same model hearing aid can vary widely from one unit to the next. In addition, the use of different earmolds significantly affects the output of any specific aid, and again, the patient is lost to continued professional follow-up.

The current trend, dispensing hearing aids in the otolaryngology clinic, has remedied many of the problems associated with referral systems. When the aid is fitted within the otolaryngology clinic, professionals assume direct control of the rehabilitative process and have assurance of continued professional follow-up. In addition, there is a constant quality of aid fitting and the cost to the patient for the instrument can be substantially less than the retail price. Also, in-clinic fitting provides the possibility of clinical research in amplification selection and fitting techniques.

Using the in-clinic dispensing method, a patient comes to the otolaryngology clinic and receives a complete audiological evaluation including: air conduction, bone conduction, speech reception threshold, speech discrimination, tympanometric measurement and acoustic reflex measurements. In addition, the patient receives a thorough

otolaryngological evaluation including a careful review of the past and current medical history, a microscopic examination of the ear canals and eardrums, and a thorough examination of the nose, throat and neck. Following the complete audiological and otolaryngological evaluations, comprehensive counseling regarding the nature of the hearing loss is provided by both the physician and the audiologist. If a hearing aid is recommended, an impression is made for an earmold. At a later date, after receipt of the custom made earmold, the patient undergoes the hearing aid selection process using a variety of different instruments. Based on the results of this evaluation, the instrument with which the patient performs best is selected and fitted. A 30 day trial follows, so that the patient has an opportunity to assess the benefits of amplification in realistic listening environments. At the end of the 30 day trial the patient returns for a postfitting re-evaluation. Later, whether the patient has problems with additional hearing loss or medical problems of the ear, nose or throat, or problems with the hearing aid, he or she returns to the clinic for evaluation and resolution of the problem.

The changes described above in hearing aid delivery systems, as well as the legislative regulations and the increasing number of patients having sensorineural hearing loss who come to physicians seeking assistance, have brought about an expansion in the role of physicians' responsibility regarding amplification. It should be, therefore, every physician's responsibility to increase his awareness and knowledge of what is available in the field of aural rehabilitative procedures, including the use of amplification. In addition, it is the otolaryngologist's responsibility not only to make the diagnosis of the hearing loss, but also to evaluate whether or not amplification is indicated, counsel and motivate the patient for consideration of aural rehabilitation and re-evaluate the patient at regular intervals. The audiologist, on the other hand, has increased his role, not only to evaluate the nature and degree of the hearing loss, but also to evaluate the need for amplification, to counsel the patient, to evaluate the hearing impaired patient with amplification, to fit the hearing aid and orient the patient regarding the use of amplification and to re-evaluate the patient at regular intervals.

It is now possible for the large majority of

hearing impaired persons to use amplification if they wish. This includes most patients with sensorineural hearing loss. Physicians in family practice should become aware of the fact that patients with sensorineural hearing loss and reduced speech discrimination abilities, still may benefit from the use of amplification. The physician can motivate the patient to consider trial amplification when medical and/or surgical treatment is not available or effective, thus providing the patient the opportunity to make his own decision based upon a trial period using amplification in realistic listening environments.

In our clinic, over the past four years, we have fitted approximately 800 patients with hearing aids. Of these 800 patients, approximately 700, or 90%, had a sensorineural hearing loss. Our statistics show that following a 30 day trial period, 93% of those patients did note significant benefits from the use of amplification and chose to keep the hearing aid on a permanent basis. A survey of these patients using amplification revealed that 91% of the group were receiving as much or more

benefit than had been originally indicated to them by the physician and/or the audiologist. In addition, the survey showed that 51% of these patients realized the benefits of amplification in less than one week of their trial period. Also, 56% of the patients had no trouble adjusting to the use of amplification. An additional 31% had trouble only during the trial period. These statistics reveal the efficacy of hearing aid usage in those patients with sensorineural hearing loss.

The complexity of communicative and psychological disorders resulting from substantial hearing loss are clearly multifaceted problems involving both the general health and psychosocial well-being of the hearing impaired patient. The hearing aid is a device that is an integral part of the aural rehabilitative process. On the basis of our four year experience of dispensing aids directly from our clinic, we certainly feel that this approach of direct dispensing creates a more total management of hearing health care and thereby improves the quality of patient care for the hearing handicapped population.





ELECTROCARDIOGRAM

OF THE MONTH

The Department of Cardiology, University of Arkansas College of Medicine

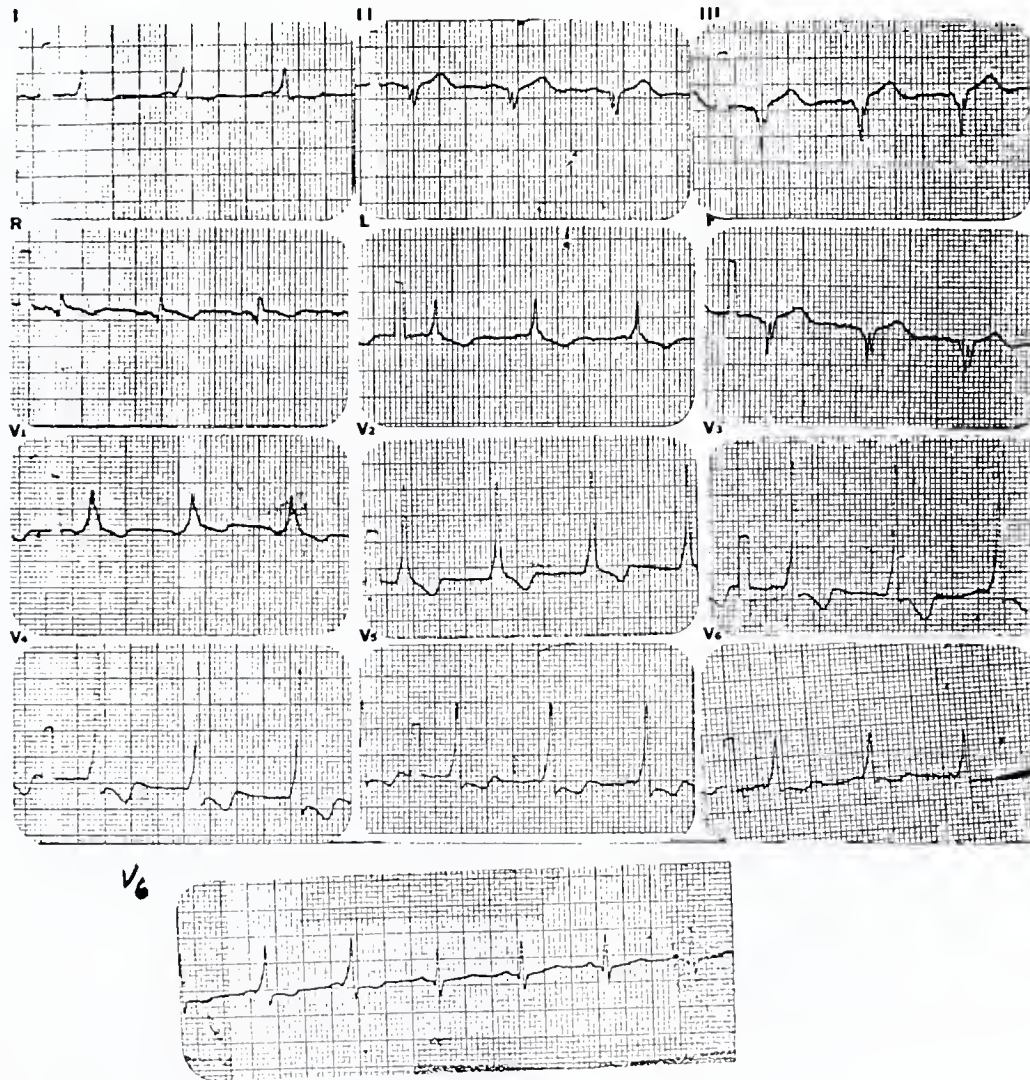
(See Answer on Page 187)

HISTORY: Mr. R. is a 30-year-old white male who is presented to his family physician for a routine physical examination. The patient had no known health problems. He gave negative responses to questions concerning angina and palpitations and denied the presence of cardiovascular risk functions.

Physical examination of the patient was completely normal. A chest film was also normal. The patient's ECG is shown along with a rhythm strip from V6.

Which one of the following options is indicated:

- Admission to a coronary care unit and observation for myocardial infarction.
- Therapy for ventricular tachycardia.
- Elective ventricular pacing for "bilateral bundle branch block".
- Counsel the patient as to the presence of a "pre-excitation" syndrome and send him home.



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Arkansas Department of Health Maternal and Child Health Division "Maternal-Infant-Child Health Project"

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In mid-December, 1977, the State Health Department was asked to submit a protocol that was concerned with obstetrical, newborn and child health care—a protocol that, because of funding scarcity, was lying dormant. It appeared that the Governor's office had for its dispensation a large sum of Federal monies that specified their application to the employment of the unemployed and the underemployed. Along with other state agencies, the Health Department submitted its plan for augmenting and improving maternal and child health care in southeast, central, and western Arkansas. Essentially, the scheme called for a team approach to the problem and involved the creation of a mobile group that would be headed-up by highly trained clinically oriented nurse practitioners in obstetrical and newborn child care. Other members of the team would be support professionals in nursing, nutrition and social work. A cadre of clerical and record personnel would complete the force. Four such teams were to be recruited and trained for eventual dispersal to under-served counties in the southeastern, central and western portions of the State. Personnel engaged for this endeavor were to meet the criteria for the proper usage of available funds—they were to be unemployed or underemployed and subject to Merit System selection processes. The plan was accepted and funded for two years.

Recruitment was started at once and the first team, based in Forrest City, became a reality quite rapidly. At this point, the Legislative Council

asked for the opportunity to review the project's goals and organization and, after due thought, recognized the need for the services but did not approve of the primary goal to serve southeastern, central and western Arkansas *only*. They suspected that *all* of the state's counties were in desperate need for this brand of health care. They asked that the Governor's office support to "the team concept" for southeastern, central and western Arkansas be applied statewide. To accomplish this it was further suggested that the original allotted funds be diluted to provide these statewide services and that this dilution be within the ranks below the level of nurse practitioner. The Health Department, through its Maternal and Child Health Division, assembled a revised protocol that created several artificial blocks of counties, each block to be a boundary entity receiving the innovative services of nurse practitioners skilled in prenatal, post partum, family planning and child health care. The "team" concept would become a strained affair because of the chronic statewide shortage of nutritionists and social workers. Nevertheless, available professionals in these last specialties would extend themselves even more thinly to include these new services.

Arkansas has always been seriously compromised by its lack of maternity and child health services within the health department's responsibility. Merely 22 counties provide prenatal, post partum and well child care. This is due more to space allotment by counties for health services than it is to the ideal that is the Health Department's primary area for accomplishment. Smaller

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counties have been unable to provide space and personnel for the major undertaking of establishing maternity and child health clinics. Smaller counties tend to have less clinicians within their boundaries and, the few they have, are overwhelmed with the general medical needs of their citizens. Obstetrics has become a fading interest for these few physicians because of the fatigue of a family practice and, also, because of hospital limitations. It is quite real to say that care for the pregnant woman in Arkansas, except for a few population centers, is scarce and frightening, especially for the indigent.

So, the Maternity, Infant, Child Health Project (M.I.C.H.) has a challenge in order to succeed. In some instances bringing skilled nurse practitioner services into certain counties is beyond accomplishment because of available facilities and personnel shortages that now exist and probably will continue to exist. It is believed by the Health Department authorities charged with the expansion phase of the (MICH) project that some centralization of care may have to be built into the total county care concept. This to be accomplished by transport from a minimal served county to one that is already spatially adequate or has the potential for expansion. In this manner it is hoped that access to care will be open to all.

How do nurse practitioners become qualified to function at the county level? Basically, these highly trained professionals come to this new calling with a Baccalaureate Degree and an ingrained study habit. A three-month intensive "crash" course has been designed and implemented to prepare these practitioners to identify high-risk patients and to manage the care of the vast majority of conventionally healthy patients. They have been taught by their peers who, at the present writing, have many years of maternity and well child care service within the existing university system. The training period is also shared by two clinicians of American Board rank—one an obstetrician, the other a pediatrician. Contact is at least two-to-one during this deep educational experience. Didactic elements are stressed and reading is voluminous. Clinical exposure in depth is provided by the University of Arkansas' out-patient and in-patient services. Relationships and an understanding of the State Health Department's code of medical care is also a very vital part of the three-months in training.

It is quite safe to say that a very capable and humane nursing specialist emerges from this total effort. One who knows her particular medical field as well as one who is skilled in assuring definitive referral when required.

Certain county physicians have been contacted by the program's medical directors as "back-up" physicians for these nurse practitioners. Without exception, these physicians who have been approached have agreed to act as consultant when called upon. Modest honorariums have been offered these public spirited physicians—too modest to discuss in this paper.

M.I.C.H., then, is a statewide program designed to bring modern prenatal care and screening into underserved areas and to augment those areas where services now exist. Likewise, child health care, family planning and other general good public health services will soon reach into regions as now without hope.

All of the state will benefit, for through this innovative effort, perinatal morbidity and mortality has a sincere chance to reach levels attained in other states. In time this (MICH) function will engraft itself on what the state has long needed—regional perinatal care. This last high sounding statement is presently more than an idea. It is a practical plan for total maternity and newborn care that is of the highest calibre, and a recently organized Governor's Committee has submitted a blueprint for implementation to the Governor within the past month. Children Colony expansion may just come to an end even as the tuberculosis sanatoria phase has faded from memory.



ANSWER—Electrocardiogram of the Month

DISCUSSION: The best choice is D. The ECG shows Wolf-Parkinson-White (WPW) syndrome, Rosenbaum-Wilson Group A with classic findings of a short PR interval and delta waves in virtually every lead. The rhythm strip shows the patient going into normal conduction. Depending upon the delta wave axis, WPW syndrome can simulate inferior or anterior infarction. This particular patient was admitted to a coronary care unit with a presumptive diagnosis of inferior infarction. The syndrome is sometimes associated with supraventricular tachycardias and patients with WPW syndrome merit counseling as to that fact. Symptomatic patients are generally treated with Inderal, Quinidine, or Procainamide.



EDITORIAL

Obesity and Surgery

Alfred Kahn, Jr., M.D.

It has been triflingly said that Americans dig their graves with their teeth. Overeating and overweight and poor selection of food stuffs is endemic in America. The consequences of obesity are ignored by the lay public just as cigarette smoking warnings. Comparisons are often drawn between the slim masai warriors and the plump American male. Probably, the comparison is a poor one due to the different background of climate, disease exposure, genetics, etc. In any event, the American male's predilection for arterio-sclerotic heart disease, strokes, and high blood pressure is too well known to document; there exists a relationship between overeating and wrong eating with these diseases.

If an obese person will not diet or if a person does not seem to be able to lose weight, what is there to do? Some physicians recommend intestinal bypass surgery. If a person has too many lipocytes from overfeeding in infancy and puberty, dieting to keep the weight down may be very difficult—but if complications as hypertension, diabetes mellitus, orthopaedic disorders, and poor pulmonary function are present, the need for weight loss may be imperative. This and other aspects of "Intestinal Bypass Operation as a Treatment for Obesity" is discussed by Bray, Barry, Benfield, Castlenuovo-Tedesco, Drenick, and Passaro in a UCLA conference published in *Annals of Internal Medicine* (Vol. 85, page 97, July, 1976). Two types of operations are reported end to side and end to end with rather similar results depending on the length of the bypass. Weight loss in the first year is said in some series to vary from 30 pounds to 150 pounds—most of the loss was attributed to fat. The caloric intake falls after this type of surgery from a reported 6400 to 7400 calorie per day to 1000 calorie per day—up to later 2500 to 4000 calorie per day. Some

malabsorption is said to occur but this is not a significant factor. There is some change in food preference.

The psychiatric effects of bypass surgery were discussed by Castlenuovo-Tedesco who examined 12 patients before and after surgery. Ten of the 12 are said to have shown personality disturbances. The psychological effects of the surgery were beneficial. After surgery, Castlenuovo-Tedesco found that the patients were "more anxious and easily upset". Bray reviewed the complications of surgery which included early: pulmonary emboli, wound infection, and hemorrhage; later: urinary stones, liver disease, anemia, etc. Forty-two deaths were found in 989 patients. Metabolic complications included mineral deficiency from diarrhoea. Anemia and hypoproteinaemia were occasionally seen. The gastrointestinal complications were diarrhoea, hemorrhage and "bypass enteritis".

Dr. Ralph E. Barry reports that profuse diarrhoea often follows bypass surgery but it usually abates. Pseudo-obstruction may occur.

Liver disease after bypass has been widely reported. Drenick states that functional liver problems occur in 40% of the patients. Liver test changes are reported to be late, and significant pathological changes have occurred by then. Liver scanning with technetium may be helpful in detecting dysfunction. Liver biopsy is the best means of determining liver injury, which is said to be maximal six to twelve months after surgery. The biopsies show fatty infiltration, fibrosis and some periportal necrosis. The cause of the liver changes is unknown; it may relate to infection in the bypassed segment.

From St. Georges Hospital in London is a study entitled "Explanations for Weight Loss after Ileocecal Bypass in Gross Obesity" by Pilking-

ton, Gazet, Kalndy, Crisp, and Day. Twenty patients were studied. The patients' diet and feces were carefully measured to determine the amount of calories eaten and the amount excreted in the stools. No evidence of malabsorption was found. The authors believe that abdominal discomfort and dissatisfaction with the post-operative diet account for the weight loss.

Benfield, Greenway, Gray, Barry, Lechago, Mena, and Schwednwie (*Surgery Gynecology and Obstetrics*, Vol. 145, page 401, September, 1976) published their "Experience with Jejunio-Ileal Bypass for Obesity". They considered 58 patients for surgery but only 30 finally underwent surgery. The mean pre-operative weight was 158.4 kilograms with a mean height of 165.5 cm. Both end to end and end to side anastomoses were performed. The patients undergoing end to end anastomoses lost 50.7 kilograms; the end to side group lost 39.8 kilograms; these results were at six months. The authors did not feel that the

type of surgery was significant in obtaining weight loss. These writers, as do other investigators, feel that the weight loss in these patients was the result of decreased caloric intake—about 2,682 calories per day at the end of six months. Hepatic dysfunction was not readily detected in this series by laboratory tests; they feel that some of the hepatic changes can be reversed by giving aminoacid intravenously and withholding glucose. It is of incidental interest that Benfield, et al, ran some endocrine studies which showed only a drop in parahormone level after surgery.

Obesity is certainly a serious disease, but intestinal bypass surgery is not necessarily a panacea. It has important draw backs—the cases selected for surgery have to be carefully chosen—and the patients should be monitored after surgery for complications as liver disorder and pseudo-obstruction. Properly selected and followed patients are grateful for the weight loss.



MEDICINE IN THE



THE MONTH IN WASHINGTON

Kennedy-Labor forces upstaged President Carter's release of national health insurance principles by denouncing them as "unacceptable overall" a day before they were to be made public.

Senator Edward Kennedy (D-Mass.) and AFL-CIO President George Meany in a joint press conference a day before the scheduled release of the NHI principles charged Carter with "a failure of leadership" and of "misreading the mood of the people."

A day later President Carter called for a NHI plan that through a step-by-step process would ultimately lead to comprehensive health coverage for all. He directed Health, Education, and Welfare Secretary Joseph A. Califano to develop a tentative plan as soon as possible which embodied ten White House derived NHI principles.

James H. Sammons, M.D., Executive Vice President of the American Medical Association, stated:

"The American Medical Association is pleased that the President appears to have recognized the many positive aspects and strengths of our health care system in the process of presenting his national health insurance principles. Many of the NHI principles announced by the President seem to be consistent in whole or in part with similar principles that have been endorsed by the American Medical Association. These include the need for comprehensive health care coverage, freedom of choice of physician, hospital, and health care delivery system, the provision of quality care, and the utilization of the private health insurance industry. The AMA has introduced legislation embodying these principles in the Congress since 1970."

Charging that the President's principles were "simply too little and too late" to form the basis of a program, the Kennedy-Meany faction stated that while it "hoped the current break with the President could be repaired—it would proceed on its own to develop a NHI program that will meet the urgent and basic needs of the people of America."

The President's NHI principles:

- 1) The plan should assure that all Americans have comprehensive health care coverage, including protection against catastrophic medical expenses.
- 2) The plan should make quality health care available to all Americans. It should seek to eliminate those aspects of the current health system that often cause the poor to receive substandard care.
- 3) The plan should assure that all Americans have freedom of choice in the selection of physicians, hospitals, and health delivery systems.
- 4) The plan must support our efforts to control inflation in the economy by reducing unnecessary health care spending. The plan should include aggressive cost containment measures and should also strengthen competitive forces in the health care sector.
- 5) The plan should be designed so that additional public and private expenditures for improved health benefits and coverage will be substantially offset by savings from greater efficiency in the health care system.
- 6) The plan will involve no additional federal spending until FY 1983, because of tight fiscal constraints and the need for careful planning and implementation. Thereafter, the plan should be phased in gradually. As the plan moves from phase to phase, consideration should be given to such factors as the economic and administrative experience under prior phases. The experience of other government programs, in which expenditures far exceeded initial projections, must not be repeated.
- 7) The plan should be financed through multiple sources, including government funding and contributions from employers and employees. Careful consideration should be given to the other demands on government budgets, the existing tax burdens on the American people, and the ability of many consumers to share a

moderate portion of the cost of their care.

- 8) The plan should include a significant role for the private insurance industry, with appropriate government regulation.
- 9) The plan should provide resources and develop payment methods to promote such major reforms in delivering health care services as substantially increasing the availability of ambulatory and preventive services, attracting personnel to underserved rural and urban areas, and encouraging the use of prepaid health plans.
- 10) The plan should assure consumer representation throughout its operation.

In his statement Dr. Sammons pointed out that the AMA agreed with the need to restrain increases in the cost of care and to control the inflationary impact of any program considered by Congress—but that careful consideration must be taken that quality and access to care were not adversely affected. He also touched upon the AMA's participation in the Voluntary Effort program and AMA President Tom E. Nesbitt's call for physicians to limit fee increases.

"Understandably," Dr. Sammons said, "in the absence of a specific legislative proposal, it is difficult to comment in greater detail. For example, we have reservations about a reference to the need for a major reform of the health system without better understanding the details of that reform."

"During the NHI debate, we would urge the private sector to continue to work to expand private health insurance availability and coverage, to maintain quality of care, and to voluntarily restrain the cost of care."

* * * *

After more than two months of bitter struggle within a seesawing House Commerce Committee the Administration's hospital cost control bill has suffered a crippling and probably fatal blow.

The House Commerce Committee has stunned the Administration by voting 22 to 21 to remove the threat of federal controls from its measure. The Committee then approved 15 to 12 a substitute bill asking hospitals to cut revenue increases by two percent a year and establishing a Presidential Commission to oversee the situation. States would receive financial aid for their own cost control programs if they wish.

Health, Education and Welfare Department Secretary Joseph Califano said the committee action was "a defeat for the public interest and

a victory for the special hospital interests." He told a news conference he will talk to Congressional leaders "to assess our ability to obtain a meaningful bill from Congress this year." If this can't be done, he said, the Administration "will have to take its case to the people and come back next year with a strong proposal."

Even before the Committee's vote, the Hospital Cost Containment Act faced rough sledding in Congress, requiring clearance from the House Ways and Means Committee and the Senate Finance Committee where resistance to the concept was strong. The key Commerce vote was believed by most people to kill the bill for this session.

A bitter Califano said the Administration has "lost to a very strong and effective lobby." Health provider groups, led by the American Medical Association, the American Hospital Association and the Federation of American Hospitals, were in the forefront of the drive to block the bill.

Commenting on the Committee's action, Robert B. Hunter, M.D., AMA Board Chairman said the AMA "is pleased to learn that the efforts of the private sector, through the Voluntary Effort and other cost consciousness programs, has been recognized by Congress. This kind of coordinated and cooperative effort between physicians and hospitals to cut the rise in the escalation of health care costs is the only responsible approach to the continued delivery of quality health care."

Recent statistics revealed that the Voluntary Effort of the AMA, the AHA, and the FAH was helping to keep hospital costs rises down this year at a rate which makes achievement of the two percent goal this year a clear likelihood. This may have proved a factor in the Commerce Committee vote on the substitute bill offered by Rep. James Broyhill (R.-N.C.). Even Rep. Paul Rogers (D.-Fla.), Chairman of the Health Subcommittee and champion of the Administration's cause on this issue, voted for the substitute, saying we had "to get this matter out of Committee . . . let's get it to the floor and let the members vote their conscience there."

Earlier, the Administration had been forced to swallow a major compromise—a provision giving the private sector an opportunity to decrease the rate of inflation before allowing for the trigger of mandatory federal ceilings on hospital's annual expenditures. This trigger was erased on the crucial 22-21 Commerce vote.

Secretary Califano, the Administration's chief

spokesman, had maintained a steady barrage of invective at hospitals, declaring they are "obese" and suffering from "runaway cost inflation."

Later, Michael Bromberg, FAH Executive Director, said Califano had "deliberately misled the public when asked about the House action on the Hospital Cost Containment bill."

Bromberg said Califano cited figures on profits for the entire hospital industry and stated they were just for investor-owned hospitals. Califano's statement on television news amounted to a "cabinet officer shooting from the hip with deliberately misleading information," said Bromberg.

Bromberg also said Califano "has impuned the integrity of some of the most outstanding members of Congress by saying the House Commerce Committee sold out to lobbyists."

"The Secretary refuses to admit that the Committee rejected the bill because it was a bad piece of legislation," Bromberg said.

The Administration now pins its dwindling hopes for a hospital cost control bill on a possible Senate floor fight.

Following the crucial defeat of its plan by the House Commerce Committee, the Administration suffered another major setback when the Senate Finance Committee tentatively approved its long-pending measure for changing Medicare-Medicaid hospital reimbursement. None of the Administration-sought changes to broaden the plan were included.

An attempt could be made when the Finance Committee bill reaches the Senate to insert the hospital revenue ceiling of the Administration, but the struggle would be close and the issue appears dead in the House.

* * * *

The Senate has approved a scaled-down measure continuing federal aid for Health Maintenance Organizations (HMOs).

Reports of abuses of the HMO program in some areas led the Senate to adopt financial disclosure provisions and other rule tightening. As cleared by the Senate, the HMO program would be extended for three years with a total authorization of \$170 million. The original request had been for a five-year extension and \$400 million.

There was only one dissenting vote on final passage—by Sen. Carl Curtis (R-Nebr.) who said efficient HMOs don't need subsidies and there are "too many instances of fraud and abuse among subsidized HMOs . . ."

A provision exempting HMOs from certificate of need requirements under planning programs was dropped from the bill and was scheduled to be taken up later when the planning bill comes to the floor.

Sen. Sam Nunn (D-Ga.), Chairman of a special Senate investigations subcommittee, held hearings and issued a report this year criticizing past operations of the HMO program and pointing to instances of abuse and inefficiency. He led a successful drive to pare the size of the bill and to include some of the anti-fraud provisions, securing agreement with Sens. Edward Kennedy (D-Mass.) and Richard Schweiker (R-Pa.) on the limiting proposals in advance of the Senate vote.

Speaking in favor of the bill, Sen. Robert Dole (R-Kan.) said that "unless we monitor much more closely what we have been doing, we may be supporting a program which in the future could prove to rival the nursing home and Medicaid bill scandals about which we have heard all too much in the past."

The measure, which now goes to the House, would increase the maximum grant or loan guarantee, for an initial HMO project from \$1 million to \$2 million; would allow twice as much in aggregate initial operating loans and guarantees to be outstanding (\$5 million, up from \$2.5 million); relax certain benefit requirements; and establish a HEW Department monitoring system to police the program.

* * * *

A dramatic decline in hospital inflation has "clearly demonstrated that the private sector" can handle the task of curbing rising costs, said James Sammons, M.D., AMA Executive Vice President.

Dr. Sammons and other officials connected with the Voluntary Effort (VE) told a Washington, D. C. news conference that April figures revealed that for the eighth consecutive month the rate of increase in hospital expenditures has been braked.

The private sector "can be proud" that the threat of federal hospital cost controls has not "affected the cost of care one whit," Dr. Sammons said.

"The quality of care continues to be the best in the world," he said.

John Alexander McMahon, AHA President, said the figures demonstrate that the Voluntary Effort "is alive and well." He said the key to the success has been that hospitals and physicians have been able to approach the problem of cost

increases in a flexible way most appropriate for the individual institutions involved.

Michael Bromberg, FAH Executive Director, said the Voluntary Effort is "well ahead of schedule. We can predict success certainly for year one." Bromberg praised the AMA for helping to make physicians "more cost conscious."

The Voluntary Effort, led by the AMA, AHA and FAH has a goal of reducing the rate of increase in hospital expenditures by two percent a year for the next two years. Hospital costs rose 15.6 percent last year. For the first four months of this year the annual rate of increase was running at only 12.7 percent, well within the hoped-for two percent drop.

Resentment was expressed at the Justice Department's failure to give the VE a clear green light of antitrust exemption for its voluntary activities. However, the officials noted that Justice has given no indication that any of VE's activities will face legal challenge from the government.

The statement of the HEW Department to Justice opposing antitrust clearance for the VE was criticized as a "100 percent, purely political move", by Dr. Sammons.

Bromberg added that "we would have been able to move a lot faster if HEW had offered any help, period." McMahon said Secretary Califano continues to make charges about hospital costs "running wild" despite the progress that has been made in the past several months.

Results of a Voluntary Effort survey showed that 37 states are currently conducting provisional certification programs in their community hospitals with most of the remaining states expected to begin such programs within a month. Provisional certification involves commitment of hospital boards, management, and medical staffs to the state-level voluntary efforts to adopt cost containment principles and programs in their institutions and to provide various data to the state committees to monitor rates of increase.

* * * *

The government's \$200 million Neighborhood Health Center program is overstuffed, the General Accounting Office (GAO) has charged.

The GAO, which investigates federal programs for Congress, said the "underuse of physicians, dentists, support personnel and services is costing the six centers to date investigated more than \$1 million annually."

The HEW Department operates 112 Community Health Centers primarily in urban areas. GAO said the annual salary costs for excess primary care physicians at the centers is above \$4 million. Costs for excess supporting staff were estimated to be \$6.3 million.

At 58 percent of the centers, the average number of patients treated by physicians per hour fell below HEW's minimum standard of 2.7 per hour, according to GAO.

In a report to Congress, GAO said anticipated patient demand on which staff levels were originally based has not materialized, and staffs have not been reduced to levels consistent with demand.

Demand for health services from the Neighborhood Health Centers is not likely to increase beyond present levels and could decline because the population growth of the areas that the centers serve has either stabilized or other sources of health care have become available, the report said.

* * * *

The government has issued rules under which federal funds may be used to pay for Medicaid abortions.

The two physicians who certify necessity of the abortion must be financially independent of each other to eliminate conflicts of interest. Under law, federal funds may be used for abortions only when two physicians certify the mother will suffer severe and long-lasting damage.

The name and address of both the victim of rape or incest and the person reporting the crime must be listed. The law allows federal money for abortions in cases of rape or incest if the crime is reported to the police or public health officials within 60 days. Previous regulations did not require the address of the victim.

When physicians certify the mother's health would be affected without an abortion, the address of the patient must be given to state and federal authorities as well as the name.

The HEW Department said the address requirements will enable HEW and state officials "to ascertain the appropriateness of payments for abortions."

* * * *

Hale Champion, second-most powerful official at the HEW Department, is in line to be Social Security Commissioner. Currently HEW Undersecretary, the 55-year-old Champion brings a long

background of financial experience to the post which has been vacant since the first of the year.

Though on the surface a step-down for Champion, the Social Security Directorship has traditionally been one of the major federal positions, controlling a vast financial operation in government—the disbursing of hundreds of billions of dollars of retirement, Medicare, unemployment, disability and other funds.

Reportedly in line for Champion's key position under HEW Secretary Joseph Califano is 46-year-old Stanford Ross, a tax lawyer and long-time friend of Califano. Ross is Chairman of the Social Security Advisory Council.

Champion was California Finance Director in the 1960's and served for six years as Financial Vice President of Harvard University.

* * * *

DR. CRUMPLER RECEIVED RECOGNITION

Dr. Toby Crumpler, a native of Magnolia and a 1973 graduate of the University of Arkansas College of Medicine, has been selected to appear in the 1978-1979 edition of Personalities of the South, which is published by the American Biographical Institute. Those individuals selected for the publication are citizens whose backgrounds, services, and past achievements are worthy of note by others. Dr. Crumpler compiled a 4.00 grade point every semester while attending Southern Arkansas University. He was graduated from the University of Arkansas College of Medicine in 1973, and he recently completed five years of surgery residency training in Tulsa, Oklahoma. He is a General Surgeon at St. Joseph's Physicians Center in Paris, Texas.

* * * *

HEALTH LIAISON FOR PROGRAMS APPOINTED

Dr. Larry Faulkner, a psychiatrist with the State Mental Health Service Division, has been appointed Deputy Mental Health Commissioner for community health services and affiliated programs. Dr. Faulkner recently completed his psychiatry residency at the University of Arkansas Medical Center and the National Institute of Mental Health at Rockville, Maryland. He joined the staff of the Mental Health Service Division in July.

Dr. George W. Jackson, who has been acting Mental Health Commissioner, will replace Dr. Oscar Kozberg as the Medical Director of the State Hospital.

keeping up

Category 1 Continuing Medical Education Programs Available in Arkansas

INPATIENT GERIATRIC EVALUATION

Tom Cain, M.D., Fellow in Geriatric Internal Medicine, University of Arkansas at Little Rock. Sponsored by St. Joseph's Mercy Medical Center in Hot Springs. To be held at *12:30 P.M. NOVEMBER 7, 1978*, in the Red Room of St. Joseph's Mercy Medical Center on the third floor. One hour Category I credit. Registration fee \$5.00, no fee for St. Joseph's medical staff members. Open to all physicians.

MORBIDITY AND MORTALITY CONFERENCE

Case presentations and review. Baptist Medical Center, Little Rock, Arkansas. To be held *NOVEMBER 2, and DECEMBER 7, 1978, 8:00 A.M. until 9:00 A.M.* in Conference Room One at Baptist Medical Center. One hour Category I credit. No registration fee and this is open to all physicians.

MEDICINE CONFERENCE

Speakers and topics will vary. Sponsored by the Baptist Medical Center, Little Rock, Arkansas. To be held from *11:30 A.M. until 12:30 P.M. NOVEMBER 3, 17, and DECEMBER 1, 15, 1978*, in Conference Room One at Baptist Medical Center. A light lunch is provided. One hour Category I credit and one hour American Academy of Family Physicians credit. No registration fee and is open to all physicians.

PULMONARY CONFERENCE

Speakers and cases vary. Sponsored by the Baptist Medical Center, Little Rock, Arkansas. To be held from *12:00 NOON until 1:00 P.M., NOVEMBER 7, 14, 21, 28, and DECEMBER 5, 12, 19, and 26, 1978*, in Dining Room Four, Baptist Medical Center. No course fee and this is open to all physicians.

BASIC CARDIOPULMONARY RESUSCITATION COURSE FOR PHYSICIANS

Instructors vary. Sponsored by the Baptist Medical Center, Little Rock, Arkansas. To be held from *6:30 P.M. to 10:30 P.M., NOVEMBER 8 and DECEMBER 13, 1978*, at the Human Re-

sources Development Area, Baptist Medical Center. No fee but classes are limited to a minimum of six and a maximum of twelve participants. Physicians must pre-register with the Medical Education Department of Baptist Medical Center. Light supper is provided. Open to all physicians. Four hours Category I credit and four hours American Academy of Family Physicians prescribed credit.

SECOND ANNUAL WORKSHOP ON CERVICAL CANCER SCREENING

Ruth C. Steinkamp, M.D., Director, Bureau of Cancer and Special Services, Arkansas State Department of Health. Co-sponsored by the University of Arkansas College of Medicine, Department of Continuing Education for Physicians. Will be held at the Arkansas Mental Health Services Auditorium in Little Rock, *9:00 A.M. to 4:00 P.M., NOVEMBER 9, 1978*. Five hours Category I credit. No registration or course fee. Toll free information 1-800-482-5578. Open to all physicians.

SURGERY CONFERENCE

Speakers and topics will vary. Sponsored by Baptist Medical Center in Little Rock. Will be held in Conference Room One, *8:00 A.M. to 9:00 A.M., NOVEMBER 9, 16, 23, 30, and DECEMBER 14, 21, 28, 1978*. One hour Category I credit. No registration fee. Open to all physicians.

INTERNAL MEDICINE FOR THE FAMILY PRACTITIONER

George L. Ackerman, M.D., Professor and Vice-Chairman, Department of Medicine, University of Arkansas College of Medicine. Co-sponsored by the Department of Continuing Education for Physicians, and will be held in Education II Building, Ground Floor, Rooms 141A and B, of U.A.M.S. Campus. *8:15 A.M. until 4:30 P.M. NOVEMBER 10th, followed by 6:30 P.M. social hour and dinner at Country Club of Little Rock; 8:30 A.M. until 11:45 A.M. NOVEMBER 11th*. Ten hours Category I credit by American Medical Association and the American Academy of Family

As organizations accredited for continuing medical education by the Liaison Committee on Continuing Medical Education, the organizations named certify that these continuing medical education activities meet the criteria for the credit hours specified in Category I of the Physician's Recognition Award of the American Medical Association.

Physicians. Course fee will be \$100 for registrants (includes luncheon, social hour and dinner on November 10th at the Country Club of Little Rock). There will be a \$12.50 charge for registrant guest at social hour and dinner on November 10th, at the club. Toll free information 1-800-482-5578. Open to all physicians.

TUMOR CONFERENCE FOR PRACTICING PHYSICIANS OF VARIOUS DISCIPLINES

Faculty from the University of Tennessee and University of Arkansas Schools of Medicine. Sponsored by Area Health Education Center-Northeast, University of Arkansas for Medical Science. Will be held at Saint Bernard's Regional Medical Center in Jonesboro, *12 NOON, NOVEMBER 14, 1978*. One hour Category I credit. No registration fee. Open to all physicians.

CENTRAL ARKANSAS PRIMARY CARE CONFERENCE

Speakers and topics vary. Program arranged for three individual speakers and a question and answer session. Sponsored by Baptist Medical Center in Little Rock. Held from *7:00 P.M. to 9:00 P.M., NOVEMBER 14 and DECEMBER 12, 1978*, in Baptist Medical Center Auditorium. Two hours Category I credit and two hours American Academy of Family Physicians prescribed credit. No registration fee. Open to all physicians.

CHEST CONFERENCE FOR PRACTICING PHYSICIANS OF VARIOUS DISCIPLINES

Faculty from the University of Tennessee and the University of Arkansas School of Medicine. Sponsored by Area Health Education Center-Northeast, University of Arkansas for Medical Science. Will be held at Saint Bernard's Regional Medical Center in Jonesboro, *12 NOON NOVEMBER 14, 1978*. One hour Category I credit. No registration fee. Open to all physicians.

CURRENT CONCEPTS IN DIAGNOSTIC IMAGING

Ernest J. Ferris, M.D., Chairman, Department of Radiology, University of Arkansas College of Medicine. Sponsored by the University of Arkansas Medical Sciences, Department of Continuing Education for Physicians. Will be held at the Camelot Inn (Silver Knight Room), Little Rock, *12:30 P.M. until 5:00 P.M. on NOVEMBER 18, and 9:00 A.M. until 3:30 P.M. on NOVEMBER 19*. Ten hours of Category I credit. Course fee is \$75.00 for physicians, \$35.00 for residents and

fellows. (Fee includes luncheon on November 19th.) Open to all physicians. Toll free information 1-800-482-5578.

MELANOMA — CURRENT CLASSIFICATIONS AND RELATIONS TO PROGNOSIS

B. Richard Johnson, M.D. Sponsored by Memorial Hospital in North Little Rock. *6:30 P.M. NOVEMBER 20*. One hour Category I credit. Will be held at Memorial Hospital. No charge for course and is open to all physicians.

WHAT'S NEW IN UROLOGY

John Redman, M.D., Chief, Urology Department, University of Arkansas College of Medicine. Sponsored by St. Joseph's Mercy Medical Center in Hot Springs, *12:00 NOON, DECEMBER 5, 1978*. Red Room of St. Joseph's Mercy Medical Center, third floor. One hour credit in Category I. Open to all physicians. \$5.00 registration fee for other than St. Joseph's medical staff members.

MANAGEMENT OF CHRONIC DISEASE

John H. Bowker, M.D., Professor, Department of Orthopaedic Surgery; Head of Section on Rehabilitation, University of Arkansas College of Medicine. Sponsored by the Section of Rehabilitation, Department of Orthopaedic Surgery; Department of Family and Community Service; Continuing Education for Physicians, University of Arkansas College of Medicine; and by the Arkansas Rehabilitation Institute. Will be held at Arkansas Mental Health Services Auditorium in Little Rock, *8:00 A.M. until 4:30 P.M. on DECEMBER 8, and 8:00 A.M. until 12 NOON on DECEMBER 9*. Ten hours Category I credit. Fee will be \$50.00 for physicians (includes luncheon on December 8). Open to all physicians. Toll free information 1-800-482-5578.

TUMOR CONFERENCE FOR PRACTICING PHYSICIANS OF VARIOUS DISCIPLINES

Faculty from University of Tennessee and the University of Arkansas Schools of Medicine. Sponsored by Area Health Education Center-Northeast, University of Arkansas for Medical Science. Will be held at Saint Bernard's Regional Medical Center in Jonesboro, *12 NOON NOVEMBER 14, 1978*. One hour Category I credit. No registration fee. Open to all physicians.

THYROID DISEASES

Jack T. Fendley, M.D. Sponsored by Memorial Hospital in North Little Rock, *6:30 P.M. DECEMBER 18*, at Memorial Hospital. One hour Category I credit. No fee. Open to all physicians.

THINGS TO COME

NOVEMBER 11-14, 1978

The first joint scientific assembly of the Southern Medical Association and the Medical Association of Georgia will be held November 11 through 14, 1978, at the Georgia World Congress Center in Atlanta. Topics for discussion will range from "The Role of Cingulotomy in the Treatment of Psychiatric Illness" by Dr. H. Thomas Ballantine, Jr., senior neurosurgeon of Massachusetts General Hospital, to "Behavioral Approaches to the Headache" by Dr. Redford B. Williams, Jr., of the psychology and medical faculty of Duke University. Dr. James E. George of Woodbury, New Jersey, a physician and attorney, will speak on "Law and Emergency Medicine" to the Section on Emergency Medicine. The use of intraocular lenses in eye surgery, replacement hip arthroplasty, antibiotics in pregnancy, hyperkinesia in pediatric patients, and tumors of the testis will be among four-hundred topics on the agenda.

Societies who are meeting concurrently are the Southern Chapter, American College of Chest Physicians; American Fertility Society; Society for Investigative Dermatology; Southern Gynecological and Obstetrical Society; and Radiological Society of North America.

The assembly is approved for Category I credit toward the American Medical Association Physician's Recognition Award, and offers seventy-seven prescribed and one hundred and sixty-eight elective hours credit to members of the American Academy of Family Physicians. For further information contact Miss Emily Shipley, Southern Medical Association Professional Relations, 2601 Highland Avenue, Birmingham, Alabama 35205. Telephone area code 205-323-4400.

JANUARY 26-27, 1979

The University of Texas Medical School at Houston, Department of Radiology, will present "Radiology of the Acutely Ill and Injured Patient—Update 1979" on January 26 through 27, 1979, at Stouffer's Hotel, Greenway Plaza, Houston,

Texas. The program is co-sponsored by the University of Texas Health Science Center at Houston, School of Allied Health Sciences and Division of Continuing Education. The course meets the criteria for fourteen credits in Category I of the Physician's Recognition Award of the American Medical Association.

Application has been made to the American College of Emergency Physicians for fourteen ACEP Category I credits, and to the American Academy of Family Physicians for fourteen hours Prescribed credit hours. Course fee is \$150.00.

For further information contact: Division of Continuing Education, University of Texas Health Science Center at Houston, Post Office Box 20367, Houston, Texas 77025, Telephone: AC 713 792-4671.

COMPREHENSIVE MANAGEMENT OF URGENT MEDICAL PROBLEMS — AN APPROACH TO THE DIAGNOSIS AND TREATMENT OF THE ADULT EMERGENCY ROOM PATIENT.

November 13-17, 1978 (8 a.m.-5 p.m.)

Stouffer's Hotel, Greenway Plaza, Houston, Texas

Presented by The University of Texas Medical School at Houston, Department of Internal Medicine. Co-sponsored by The University of Texas Health Science Center at Houston, School of Allied Health Sciences and Division of Continuing Education.

Fee:

\$325.00. Limited to 150 physicians, registration open to all specialties.

Contact:

Division of Continuing Education
The University of Texas Health Science Center
at Houston
P. O. Box 20367
Houston, Texas 77025
(713) 792-4671

Accreditation:

Approved by ACEP for 40 hours of ACEP Category I credits, is acceptable for 40 Prescribed credit hours by the American Academy of Family Physicians, and meets the criteria for 40 credit hours in category I of the Physician's Recognition Award of the American Medical Association, provided it is used and completed as designed.





PERSONAL AND NEWS ITEMS

DR. KOHLER SPEAKS

Dr. Peter O. Kohler spoke recently to the Little Rock Rotary Club on the medical advances at the University of Arkansas College of Medicine campus. Dr. Kohler is a professor and chairman of the Department of Internal Medicine at the University.

DR. GOZA MOVES TO ARKANSAS

Dr. George M. Goza, Jr., has moved his practice to Little Rock from Cumberland, Wisconsin. Dr. Goza specializes in Cardiology and Internal Medicine at Baptist Medical Arts Building.

DR. BENTON LOCATES

Dr. Thomas H. Benton has joined Dr. David Ducker in General Practice at the Skyvue Medical Center in Salem. Dr. Benton recently completed two years Family Practice residency training at the Area Health Education Center in Fort Smith.

DR. LOWREY SPONSORING DRIVE

Dr. Douglas H. Lowrey recently sponsored a membership drive in Russellville for the Mental Health Association in Arkansas. Dr. Lowrey is a Family Practitioner in Russellville.

DR. BIGGERSTAFF JOINS CLINIC

Dr. Jerry Biggerstaff has joined Drs. R. F. Rhodes, George D. Pollock, and S. Reggie Cullom in Family Practice in Osceola. Dr. Biggerstaff recently completed three years Family Practice residency training at the University of Arkansas Medical Center in Little Rock.

DRS. JONES AND ALEXANDER ASSIST IN CLINIC

Dr. Kenneth Jones of Little Rock and Dr. William Alexander of Batesville recently assisted in a crippled children's clinic in Batesville. The clinic was designed to help those children who otherwise would receive no treatment. Dr. Jones is an Orthopaedic Surgeon and Dr. Alexander is in General Practice.

AHEC AWARDS PRESENTED

The annual Area Health Education Center-Northwest Arkansas service awards were recently presented in Fayetteville. Dr. Lamar Howard was

voted "best resident" by the Washington Regional Medical Center nursing staff. Dr. Joe B. Hall of Fayetteville received the Dr. James L. Dennis Award as the faculty member who had contributed the most to the AHEC program. Dr. Lee B. Parker is the director of the Fayetteville facility.

DR. RIDLON TO DeQUEEN

Dr. Richard Ridlon has recently joined the medical staff of DeQueen General Hospital as Emergency Room physician. Dr. Ridlon completed three years of Family Practice residency at the University of Arkansas Medical Center in July.

DR. LOWERY RETURNS TO SEARCY

Dr. Benjamin R. Lowery recently returned to Searcy to begin the practice of Ophthalmology at 400 West Race. Dr. Lowery completed three years Ophthalmology residency at the University of South Florida at Tampa, in August. He was in Family Practice in Searcy for five years previously.

DR. YOUNG TO PINE BLUFF

Dr. Lloyd Young has joined the professional staff of the Southeast Arkansas Mental Health Center in Pine Bluff. Dr. Young will serve as the director of the Arkansas Youth Shelter. Prior to moving to Arkansas, he was staff child psychiatrist with the Hillsborough Community Mental Health Center in Florida.

DRS. SNEED-MASSEY GAIN ASSOCIATE

Dr. Allen McGaughey has joined Dr. John W. Sneed and Dr. James Y. Massey in the practice of Ophthalmology at Mountain Home. Dr. McGaughey was born in Hickory Ridge and received his doctor of medicine degree from the University of Arkansas College of Medicine.

DR. McDONALD APPOINTED

Dr. Harry P. McDonald of Fort Smith has been appointed to serve on the State Board of Education. Dr. McDonald was appointed to the position by Governor Pryor to serve for a term of nine years. Dr. McDonald is a Family Practitioner and has served on the Advisory Board to the Fort Smith School Board.



NEW MEMBERS

DR. RAY H. HALL

Dr. Ray H. Hall has been accepted into the membership of the Craighead-Poinsett County Medical Society. Dr. Hall was born in West Plains, Missouri, and received his B.S. degree in 1967, from Arkansas State University. In 1971, he was graduated from the University of Arkansas College of Medicine, and interned at the University of Cincinnati Medical Center, Ohio. Dr. Hall was in residency training at the University of Cincinnati for one year and two years at the University of Arkansas Medical Center. He served in the United States Air Force and was flight surgeon from 1973 until 1975, at Maxwell Air Force Base, Alabama. Dr. Hall has served as an associate professor in the Department of Internal Medicine at the University of Arkansas College of Medicine.

Dr. Hall is certified by the American Board of Internal Medicine and is in practice at the Northeast Arkansas Internal Medicine Clinic, 311 East Matthews in Jonesboro.

DR. ROBERT A. ROBBINS

The Craighead-Poinsett County Medical Society has added Dr. Robert A. Robbins to its membership. Dr. Robbins is a native of Memphis, Tennessee, and received his B.A. degree in 1969, from Vanderbilt University at Nashville, Tennessee. He was graduated from the University of Tennessee College of Medicine at Memphis, in 1972. Dr. Robbins served his internship and was in residency training at Methodist Hospital in Memphis. He was associated with the Memphis Health Center from 1975 until 1977, and served as assistant medical director of the Center.

Dr. Robbins is a Family Practitioner with offices at 208 Cobean Boulevard in Lake City.

PULASKI COUNTY

The Pulaski County Medical Society has added the following new members:

DR. CHARLES D. BARG, who is a native of Memphis, Tennessee. Dr. Barg received his B.S.

degree from Memphis State University in 1972, and in 1976, he was graduated from the University of Arkansas College of Medicine. He remained at the Medical Center in Little Rock for internship and one year Neurology residency training. Dr. Barg is in Family Practice at 100 Doctors Park Building in Little Rock.

DR. O. T. GORDON, JR., who was born in Altheimer. Dr. Gordon obtained his pre-medical education at the University of Arkansas in Pine Bluff, graduating with a B.S. degree in 1967. He was graduated from the University of Illinois College of Medicine in 1973, and interned at Miami Valley Hospital, Dayton, Ohio. Dr. Gordon continued at Miami Valley Hospital for two years Internal Medicine residency training, and in 1978, he completed two years Gastroenterology residency at Cleveland Clinic, Cleveland, Ohio. Dr. Gordon is in practice at #1 Saint Vincent Circle in Little Rock.

DR. PETER O. KOHLER, who was born in Brooklyn, New York. Dr. Kohler received his B.A. degree from the University of Virginia at Charlottesville, in 1959. In 1963, he was graduated from Duke University School of Medicine in Durham, North Carolina. He completed his internship and received one year of Endocrinology residency at Duke Medical Center. In 1965, he entered two years Endocrinology residency at the Clinical Center at Bethesda, Maryland. Dr. Kohler was in Internal Medicine residency from 1969 until 1970, at Georgetown University Hospital in Washington, D. C.

Dr. Kohler was in private practice in Houston, Texas, from 1973 until 1974, and served as Professor of Medicine and Chief, Endocrinology Division, Baylor College of Medicine from 1973 until 1977. Dr. Kohler is board certified by the American Board of Internal Medicine and by the Subspecialty Board of Endocrinology and Metabolism. Dr. Kohler is Professor and Chairman, Department of Medicine at the University of Arkansas College of Medicine.

DR. TOMMY LOVE, JR., who is a native of Hope. He graduated from the University of Arkansas, with a B.A. degree in Chemistry, in 1970. In 1974, Dr. Love received his M.D. degree from the University of Arkansas College of Medicine. He continued at the Medical Center for internship and three years Internal Medicine residency, completed in 1978.

Dr. Love's office is located at #1 Saint Vincent Circle in Little Rock.

NEW MEMBERS

DR. MARY K. RICHARDS, who was born in Jamestown, New York. Dr. Richards graduated from Northwestern University at Evanston, Illinois in 1967, with a B.A. degree in Anthropology. In 1971, she was graduated from the University of Miami School of Medicine, Florida, and interned at the University of Washington in Seattle. She completed two years Internal Medicine residency training in 1974, and two years Cardiology residency in 1976, at the University of Washington. Dr. Richards is certified by the American Board of Internal Medicine and a diplomate in the Subspecialty of Cardiovascular Disease. She is associated with Dr. James W. Wilson of Cardiology Associates at #1 Saint Vincent Circle, Suite 440 in Little Rock.

DR. JAMES D. STUDDARD, who is a native of Pine Bluff. Dr. Studdard received his B.S. degree from Ouachita Baptist University at Arkadelphia in 1967, and in 1971, he was graduated from the University of Arkansas College of Medicine. Dr. Studdard completed his internship and three years Obstetric-Gynecology residency training at Tripler Army Medical Center in Honolulu, Hawaii, in 1975. Dr. Studdard will specialize in Obstetrics-Gynecology at 310 Doctors Park Building in Little Rock.

DR. JANET A. HALE, who was born in Chicago, Illinois. Dr. Hale has entered General Surgery residency training at the University of Arkansas Medical Center. Dr. Hale received a B.S. degree in Education from the University of Arkansas in Fayetteville. In 1977, she was graduated from the University of Arkansas College of Medicine.

DR. KEVIN R. CARLSON, who is a native of Houston, Texas. Dr. Carlson received a B.S. degree in Zoology at Texas A and M. He was graduated from the University of Texas Medical Branch at Galveston in 1976, and is in Family Practice residency at the University of Arkansas Medical Center.

WASHINGTON COUNTY

The following new members have been added to the membership of the Washington County Medical Society:

DR. JAMES D. SHARP, who was born in Orange, California. Dr. Sharp completed his pre-medical education at the University of Arkansas in Fayetteville, receiving a B.A. degree in

Chemistry in 1966, and a M.S. degree in Natural Sciences in 1967. In 1971, Dr. Sharp was graduated from the University of Arkansas College of Medicine. He interned at Kaiser Foundation Hospital in Oakland, California, and served in the United States Air Force until 1974. Dr. Sharp completed four years Ophthalmology residency training in 1978, at the University of Arkansas Medical Center, and has begun practice at 102 West Dickson in Fayetteville.

DR. STEPHEN J. CLARK, who is a resident member. Dr. Clark was born in Chicago, Illinois, and received his B.A. degree from Mid-America Nazarene College, Olathe, Kansas, in 1975. In 1978, Dr. Clark was graduated from the University of Kansas Medical School. He is in Family Practice residency at the Area Health Education Center in Fayetteville.

DR. R. DALE CLEMENS, who is a resident member. Born in Siloam Springs, Dr. Clemens received his B.S. degree in Zoology from Oklahoma State University in Stillwater, in 1968. He was graduated from the University of Arkansas College of Medicine in 1978, and has entered Family Practice residency at the Area Health Education Center in Fayetteville.

DR. WILLIAM C. KENDRICK, who was born in Springdale. Dr. Kendrick received his pre-medical education at the University of Arkansas and was graduated in 1978, from the University of Arkansas College of Medicine. He is a Family Practice resident at the Area Health Education Center in Fayetteville.

DR. JOEL A. PRICE, who is also a resident member. Dr. Price is a 1974 graduate of Arkansas State University, and in 1978, he was graduated from the University of Arkansas College of Medicine. Dr. Price is in training at the Area Health Education Center in Fayetteville.

DR. DANNY L. PROFFITT, who is another resident member. Dr. Proffitt was born in Dyess, and received his B.S. degree from Arkansas State University in 1974, and in 1978, he was graduated from the University of Arkansas College of Medicine. He has entered residency training at the Area Health Education Center in Fayetteville.

* * * *

DR. GARY L. MCGREW

Dr. Gary L. McGrew has been accepted into the membership of the Clark County Medical Society.

NEW MEMBERS

Dr. McGrew was born in Hot Springs and received his pre-medical education at Arkansas State University in Jonesboro, receiving his B.S. degree in 1969, and M.S. degree in 1970. In 1974, he was graduated from the University of Arkansas College of Medicine. He interned at Tripler Army Medical Center, Honolulu, Hawaii, and received his first year of Family Practice residency training there. Dr. McGrew had served in the United States Army since 1972. His primary duty location was Tuttle Army Health Clinic, Hunter Army Airfield, Savannah, Georgia. He served as flight surgeon from July 1975, until June 1978. Dr.

McGrew is in Family Practice at 107 North Third Street in Gurdon.

DR. C. TED HOOD

The Saline County Medical Society has accepted Dr. C. Ted Hood into its membership. Dr. Hood was born in Little Rock, and received his pre-medical education at the University of Arkansas at Fayetteville. In 1975, he was graduated from the University of Arkansas College of Medicine and then completed his internship and residency training at Saint Elizabeth's Medical Center in Dayton, Ohio. Dr. Hood is in Family Practice at 205 Carpenter in Benton.



RESOLUTIONS



Dr. William S. Orr, Jr.

WHEREAS, God, in His infinite wisdom and mercy has chosen to call and take from our midst His faithful servant Dr. William S. Orr, Jr., and

WHEREAS, Dr. Orr has devotedly served humanity in this community and State through the application of his medical skills for so many years, and his country and the free by his distinguished service in the Medical Corps of the United States Navy and his many years of service on the Arkansas State Board of Health, serving with distinction as its President, and

WHEREAS, Dr. Orr, during his years of endeavors, practice and interests in humanity has

reflected throughout his medical career the highest ideals of personal character associated with the goals of the profession, and

WHEREAS, The Arkansas State Board of Health, the Arkansas Department of Health and its many friends deeply mourn his loss and passing.

THEREFORE, BE IT RESOLVED by the Arkansas State Board of Health, in its regular quarterly meeting assembled on July 27, 1978, to adopt these resolutions, and express the saddened sentiment of the Arkansas Department of Health and its eighty-four (84) local health units in the seventy-five (75) counties, and direct that a copy be included in the minutes of the Board of Health, a copy sent to his family, and a copy be published in the Journal of the Arkansas Medical Society.

Signed by:

Members of the Arkansas Board of Health



November, 1978

THE
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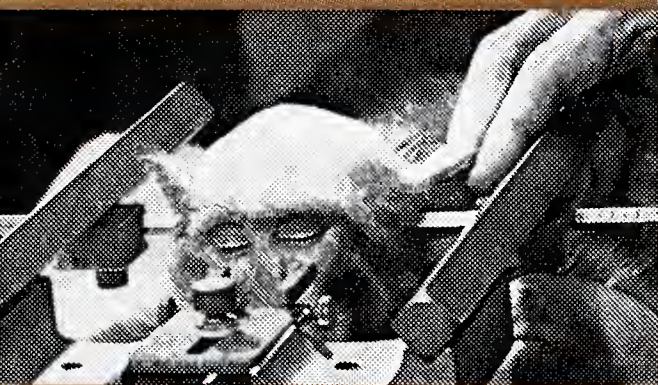
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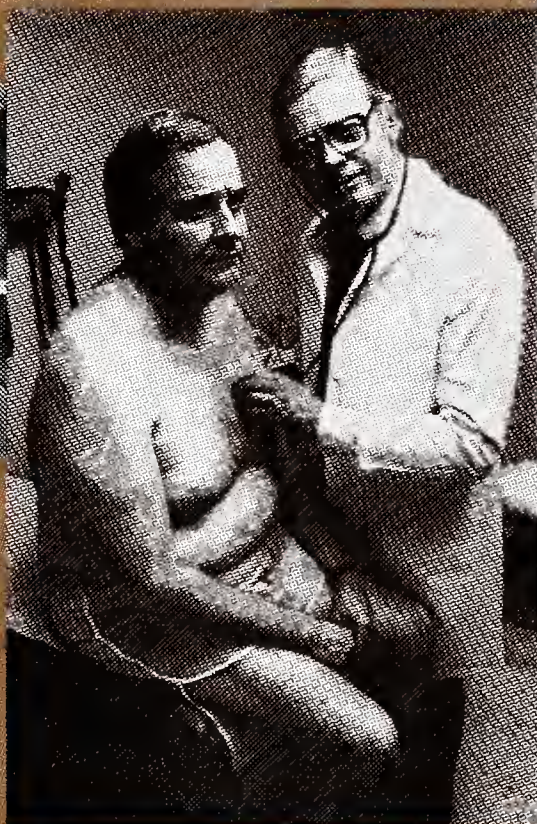
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Temporal Arteritis, a Medical Emergency

Harvey J. Blumenthal, M.D.*

Sudden and permanent blindness is the most common serious complication of temporal arteritis. It is estimated that approximately one half of the patients having this inflammatory occlusive vascular disorder risk losing their sight.¹ This report of ten cases seen over a four year period calls attention to the early symptoms which may lead to diagnosis and treatment which can prevent the blindness that resulted in two of these patients.

CASE REPORTS:

Case #5: A 69-year-old widow had vague myalgias and arthralgias for an indefinite period. One morning she awoke with loss of vision in her left eye. Six hours later she also lost vision in the right eye. A physician was seen immediately and dexamethasone administered.

Ten days later, she could visualize hand movement only in the right eye and there was no light perception in the left. The right optic disc was edematous and there was a marked right temporal field cut. Sedimentation rate was 79 mm. per hour.

She was treated with prednisone, 20 mg. every six hours. Temporal artery biopsy was normal. Sedimentation rate fell to 32 mm. per hour within one week.

One month later there was a slight improvement of vision in the right eye but not the left. She was discharged on prednisone, 60 mg. every other day. She reported gastric upset only on the days taking the prednisone. Three months later sedimentation rate was 44 mm. per hour. After another month a ten pound weight gain was noted and sedimentation rate was unchanged. Prednisone was continued. Over the next six months there was some slight improvement of right eye vision such that she could distinguish colors and read some large signs but not newspaper. Sedimentation rate was stable around 44 mm. per hour and prednisone was continued 40 mg. every other day.

Case #7: A 59-year-old lady gave a fifteen month history of muscle aching and weakness of both shoulder and hip girdles. A diagnosis of arthritis was made and she was treated with Indocin and Tylenol. Cervical roentgenograms revealed cervical arthritis. Two months previously electromyography and spinal fluid examinations were normal. The patient's condition worsened with weight loss, anorexia, dizziness and myalgia. She had difficulty rising from a chair and was unable to raise her arms above her head because of pain and weakness. She denied headache or visual symptoms. There was a history of chest pain and an abnormal electrocardiogram led to diagnosis of coronary artery disease.

On examination there was no tenderness or engorgement of the temporal arteries. Upper extremity motor weakness was marked and proximal muscles were weaker than distal muscles. She walked slowly and rose from a chair with great difficulty, demonstrating hip girdle weakness. There was tenderness to deep pressure over proximal limb muscles. Blood pressure was 108/75 supine, falling to 82/0 upon standing.

Sedimentation rate was 113 mm. per hour; hematocrit was 35%, CPK and SGOT were normal.

The patient was treated with 10 mg. of intramuscular dexamethasone and prednisone, 60 mg. daily. There was marked improvement of her symptoms in forty-eight hours. Diazepam, previously prescribed, was stopped and orthostatic hypotension improved. Within ten days pain had almost completely subsided; gait and muscle strength were significantly improved, and muscle tenderness was no longer apparent. Sedimentation rate fell to 34 mm. per hour and prednisone was reduced to 60 mg. every other day. During the following month muscular pain in lower extremities was reported on days not taking prednisone. Right orbital pain occurred and sedimentation rate rose to 110 mm. per hour in one month. Prednisone was increased to 60 mg.

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daily. Two months after treatment began the patient was symptom free except for a 14 pound weight gain. Blood pressure remained at a good level of 125/78. Sedimentation rate was 25 mm. per hour; hematocrit was 43%. Prednisone was gradually reduced to 40 mg. daily. A month later depressive symptoms developed following the death of the patient's husband. Muscular pain in arm and legs was again reported. Sedimentation rate was 20 mm. per hour and the prednisone was reduced to 30 mg. daily.

Case #10: A 71-year-old lady gave a three month history of muscular pain and tenderness involving the neck and shoulders. Jaw claudication was severe. One week prior to hospitalization she had noticed visual symptoms with flickering scotoma and transient blindness "like a curtain coming down". Two days before admission she had sudden complete blindness of the right eye. Two hours prior to admission she experienced a five minute episode of complete blindness of the left eye with complete resolution. She was referred as an emergency. Blood pressure was 205/95, bilateral carotid bruits were present. She was completely blind in the right eye and had 20/30 visual acuity on the left. A right Marcus-Gunn pupil was present. There was pale edema with fresh hemorrhage radiating from the optic disc while the left eye was normal. The neck muscles were tender and the right temporal artery was tender, engorged, and thickened. Sedimentation rate was 117 mm. per hour.

Ten mgs. of dexamethasone were immediately given intravenously and prednisone, 80 mg. per day was started. Eight hours after treatment was started the patient had one minute of complete blindness of the left eye which cleared completely without recurrence. Temporal artery biopsy revealed "chronic non-specific arteritis." Within 48 hours of treatment the aching discomfort and jaw claudication subsided completely. One month later she had no visual improvement in the blind right eye but was otherwise asymptomatic. The right optic disc was edematous but the hemorrhage had cleared. Sedimentation rate was 42 mm. per hour; prednisone was reduced to 50 mg. daily and diuretics were started for ankle edema and ten pound weight gain. One month later an additional five pound weight gain with worsening of pitting edema were reported. There were no other findings suggesting congestive failure. The right optic disc was atrophic. Sedimentation rate

was 15 mm. per hour and the prednisone was reduced to 30 mg. daily.

DISCUSSION

Although the terms temporal arteritis and cranial arteritis call attention to one of the striking clinical expressions of this condition, inflammation and gradual arterial occlusion may be widespread, and heart, great vessels, viscera, and brain may be affected. Large and medium vessels are primarily involved with maximum damage in the tunica media although the entire thickness of the vessel wall may be infiltrated by inflammatory cells. Multi-nucleated giant cells are present along with mononuclear cellular infiltrate, and thickening of the intima may reduce or obliterate the arterial lumen. (Fig. #1). The giant cells present a characteristic picture; hence, the term giant cell arteritis which places emphasis on the pathology of this disorder. Rarely, persons under 60 may be affected, but most are in the seventh and eighth decades. While all ten cases included in this report are females, the reported ratio favors females 4:1.² The initial phase may begin with generalized symptoms



Figure 1.
Temporal artery biopsy, cross-section (Case #9): Marked fibrosis of intima with mononuclear cellular infiltration of media; several multi-nucleated giant cells are present.

such as pain and stiffness of shoulder and neck muscles which are frequently tender to palpation. Anorexia, weight loss, and sleep disturbance are common and fever is present in over half of the cases.^{3,4} When these general symptoms dominate the picture, diagnosis is frequently delayed. In one series of 50 patients⁵ successful early diagnosis was made in only 20% who presented this way while 75% of patients presenting with headache were correctly diagnosed on the first visit. The term polymyalgia rheumatica has been applied to this clinical syndrome which is believed to represent a continuum of the same process as temporal arteritis.^{4,6} In one review of a total of 426 patients with polymyalgia, 22% had associated clinical cranial arteritis although all did not have biopsy confirmation.⁴ It is generally believed the myalgias are a result of inflammatory involvement of muscular arteries, but muscle biopsies have been unrevealing.

The cranial symptoms are classically described as temporal in location with pain and tenderness to touch and sensitivity of the scalp, even with gently brushing the hair. The neck pain may radiate to the face; fatigue or pain with chewing—jaw claudication—is a characteristic symptom present in four of the included cases. The temporal arteries are described as thickened, engorged, beaded, and tender in most reports. However, in this series, only case #10 had positive temporal artery physical findings. Since giant cell arteritis afflicts the elderly, the doctor or patient himself may pass the vague nuchal and head pains off as simply “arthritis” or “tension headache.” Temporal arteritis should be considered in any elderly patient with headache, neck or limb muscle pains. Sedimentation rate should be obtained immediately, and if elevated, treatment with corticosteroids begun. Temporal artery biopsy can be made in the next day or two. The importance of immediate treatment cannot be emphasized too strongly. Waiting for biopsy confirmation is not indicated for this is, as Cases #5 and #10 illustrate, a “medical emergency”.

In some, the early symptoms of headache and myalgia are so mild the patients do not seek medical attention until sudden blindness develops. Blindness results from ischemia to optic nerve or retina and half of patients afflicted may be blind.^{1,3}

Warning symptoms as scintillating scotoma, transient blindness, or blurring occurred in four

of five patients with visual symptoms included in this series. The onset of blindness is usually abrupt but rarely develops over several hours, spreading across the visual field like a curtain. In cases of bilateral blindness, one eye is usually affected first, the other becoming involved in one or two weeks. In some cases (patient #5) the second eye is affected within a few hours. Blindness is usually total but some vision may be spared.

There is a surprising lack of change on funduscopic examination. Swelling of the optic nerve head with pale disc edema and a few hemorrhages is the most common finding with surprising absence of narrowing of retinal arteries. Improvement of vision is rare even with steroid treatment and optic atrophy develops. Blindness results from ischemia of the optic nerve due to occlusive arteritis of the ophthalmic artery or its branches. (Fig. #2) Pathologic study has shown a predilection for pre-laminar involvement; i.e., before these arteries enter the globe; therefore, the ischemic damage more often affects optic nerve or disc and seldom the retina itself.³

Giant cell arteritis may involve the carotid or vertebral vessels producing a stroke picture with angiography revealing focal areas of arterial stenosis and ectasia.^{3,7} In addition to focal neurological signs, seizures, cranial nerve disturbances, and diffuse cerebral dysfunction with altered mental state have all been reported.³

A recent case report demonstrates the wide spectrum of clinical expression this condition may take. Fulton⁸ reported a 72-year-old lady with typical giant cell arteritis. The patient had headaches, sedimentation rate of 45 mm. per hour, and a positive biopsy. Symptoms improved while under treatment with 40 mg. of prednisone daily initially and eighteen months later, while taking

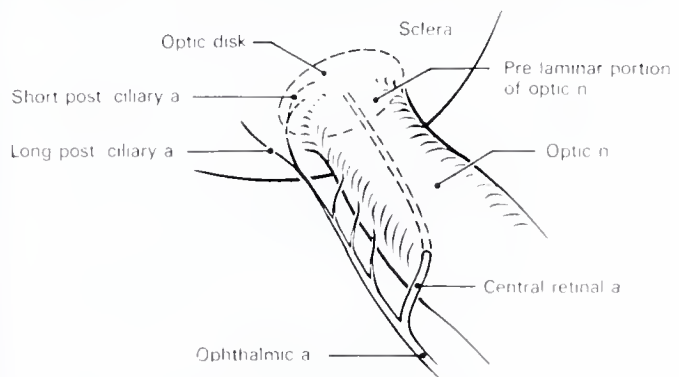


Figure 2.

Posterior ciliary arteries—Supply outer surface of optic nerve and optic disc and deep layers of retina.
Central retinal artery—Supplies central core of proximal optic nerve but not the optic disc.

TEMPORAL ARTERITIS, A MEDICAL EMERGENCY

prednisone, 20 mg. daily, she experienced a bout of aseptic meningitis while sedimentation rate was 4 mm. per hour. A search for opportunistic infection was unrewarding and she improved when the steroid dose was increased. One year

later she had a focal seizure and aphasia; there were no ocular signs. Sedimentation rate was 12 mm. per hour. A repeat biopsy was positive for giant cell arteritis despite continued treatment with prednisone for four years, 30 mg. per day as

<i>Case</i>	<i>Age-Sex</i>	<i>Major Symptoms</i>	<i>Duration</i>	<i>ESR</i>	<i>Biopsy</i>	<i>Response to Treatment</i>	<i>Complications</i>
1	78-F	Headaches, dimness of vision, jaw claudication and weight loss.	3 mos.	89	lymphocytic vasculitis without giant cells	Remarkable improvement within 24 hours. Symptoms fluctuate when dose is decreased. Six-year follow up.	
2	65-F	Transient focal neurological symptoms, shooting head pains and no visual symptoms.	3 mos.	85	giant cell arteritis	Marked improvement; symptom free 2½ years.	
3	78-F	Polymyalgia; no visual symptoms.	2 weeks	88	Normal	Prompt improvement. Symptoms dose dependent.	Demineralization with vertebral collapse. Anemia and melena, site uncertain.
4	66-F	General and right orbital headaches; no visual symptoms.	2 mos.	60	giant cell arteritis	Symptoms fluctuated, dependent on dose over follow up of 18 months.	
5	69-F	Sudden blindness, bilateral six hours later.	vague	79	Normal	Minimal improvement of vision. Persistent elevation of ESR.	Gastric upset, weight gain and corticism.
6	72-F	Headaches, partial loss of vision.	7 mos.	25	giant cell arteritis	Headaches, improved; no visual change.	
7	59-F	Polymyalgia, severe "coronary artery" disease; no visual symptoms.	15 mos.	113	No biopsy	Prompt relief; symptoms returned and ESR increased with a decreased dose.	Myelograms, EMGs before correct diagnosis.
8	65-F	Headache and jaw claudication.	6 weeks	110	giant cell arteritis	Excellent relief but symptoms recurred with increase ESR when alternate-day steroids given.	Symptoms worse when given Ergot preparations. Cushingoid.
9	72-F	Headaches, jaw claudication, transient diplopia, narrowed visual field, bilateral.	3 mos.	137	giant cell arteritis	Abrupt resolution of all symptoms.	Treatment with Indomethacin prior to diagnosis resulted in melena. Benign duodenal ulcer found.
10	71-F	Polymyalgia and jaw claudication. Sudden monocular blindness two days later in remaining eye.	3 mos.	117	Non-specific arteritis without giant cells.	Polymyalgia and jaw claudication promptly improved. Remaining vision saved.	Corticism, weight gain, ankle edema.

the most recent dose. This is a remarkable case for the prolonged course, normal sedimentation rates, unusual signs including meningitis, and all the while under treatment for four years. There are other reports of meningo-encephalitis with temporal arteritis³ and also many have biopsy-proven arteritis in the face of low sedimentation rates.³ (Patient #6)

The inflammatory process may also affect large vessels as the aorta and great vessels. These lesions are usually asymptomatic with slight involvement but extensive inflammation may result in aortic valve incompetence, aortic arch syndrome, or dissection and rupture of the aorta.^{7,9} Such major involvement of the aorta and its branches has not been widely appreciated but early recognition and treatment with corticosteroids may prevent a catastrophic result. Giant cell arteritis of the coronary arteries may result in congestive heart failure or myocardial infarction. Prior systemic symptoms of polymyalgia may suggest an inflammatory process rather than occlusive atherosclerotic infarction.³ Mesenteric arteritis may present with intestinal obstruction, melena, or gangrene of the bowel and intermittent claudication of calves and forearms has been reported.⁷ In the past three years virus-like cytoplasmic inclusions in biopsy material of temporal arteritis have been found⁸ and several cases of simultaneous giant cell arteritis and thyrotoxicosis provide further speculative evidence of an immunological disorder as the basis for this condition.¹⁰

Once the diagnosis is suspected, a sedimentation rate is obtained; if elevated, treatment is begun immediately with a single intravenous dose of 10 mg. of dexamethasone and simultaneous oral prednisone, 80 mg. which is continued daily. Temporal artery biopsy is obtained but a negative biopsy does not rule out the diagnosis, for the inflammation often affects focal areas of the artery with skip areas.¹ When negative, biopsy of the opposite temporal artery has been recommended by some.

The response to treatment with steroids is usually dramatic. Within 24-48 hours headaches, tenderness, and myalgia subside almost completely, sometimes after many weeks of discomfort.

The efficacy of corticosteroids in preventing blindness has been well documented³ and continued treatment is recommended at least two years.⁶ Recently, Hunder, et. al.,¹¹ compared alternate-day steroid administration to daily treatment. After one month the patients with treatment every day had clinical improvement of symptoms and decreasing sedimentation rate in 80-90% of cases while only 30% of patients treated with steroids every other day showed improvement. When the latter group was changed to a daily program, the arteritis improved. There is, of course, a greater potential for serious side effects when steroids are given on a daily basis; but balanced against the possibility of blindness, which study of the natural history seems to indicate is likely in as high as 50% of the cases, daily treatment with close follow-up should be recommended. Many studies indicate temporal arteritis may recur and treatment for two years with follow-up of symptoms, sedimentation rate, and possibly rebiopsy is suggested.

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Agranulocytosis During Therapy with a Brompheniramine-Medication*

Alvin Scott Hardin, M.D.,** and F. Padilla, M.D., F.A.C.P.***

It is a well known fact that many drugs can cause leukopenia. Leukopenia is the most common form of blood dyscrasia secondary to drugs and represents 42% of the cases of blood dyscrasia listed in the American Medical Association Registry of Adverse Drug Reactions. Most often this reaction represents a slow developing syndrome which may require discontinuance of the drug if the leukopenia becomes severe enough. This type of reaction is commonly seen secondary to chemotherapeutic agents and can also be seen occasionally in drugs such as the phenothiazines or sulfonamides. Rarely, individuals develop a much different syndrome which is characterized by an acute, apparently immunologically mediated, hyper-sensitivity reaction which results in abrupt-onset neutropenia. This particular type of syndrome was originally described by Schultz in 1922.⁵ In later years, this has come to be known as Schultz's syndrome. This syndrome has also been termed agranulocytosis because of the complete or almost complete disappearance of all neutrophils from the peripheral blood within minutes to hours after drug administration.⁶

We are reporting a case of drug allergic agranulocytosis and reviewing those drugs that may have been involved in its causation. We will also review those cases of this particular blood dyscrasia seen at the Little Rock Veterans Administration Hospital from 1971 through 1976.

CASE REPORT

A 34-year-old male alcoholic presented on June 11, 1976, to the Veterans Administration Hospital with jaundice, ascites and hepatomegaly. He was treated with bedrest, salt restricted diet, hydrochlorothiazide, spironolactone, and furosemide. A good diuresis was obtained and the patient's ascites diminished. On the day prior to discharge, his CBC revealed a hemoglobin of 13.4 g/dl, hematocrit of 39.7%, and a white blood count of 16,400/mm³ with 87% neutrophils and 13% lymphocytes. He was seen in the outpatient hospital clinic on the 15th of July and was continued

on the above medications. Dimetapp, a frequently used antihistamine-decongestant preparation, was added to his drug regimen because of a complaint of "sinus" trouble. On that day his CBC revealed a hemoglobin 12.7 g/dl, hematocrit of 37%, a white blood cell count of 7,000/mm³ with 84% neutrophils and 16% lymphocytes.

His final hospital admission was on the 21st of July, 1976. He presented at that time with a four day history of fever, chills and severe prostration. He also complained of a severe sore throat of approximately 48 hours duration. There was no history of drug ingestion other than those previously mentioned. On admission the patient was thrashing wildly about and did not respond to questions. His temperature was 104°F. Throat examination revealed a bloody purulent exudate in the mouth and throat with an extremely swollen neck. The chest examination revealed bronchial breathing throughout both lung fields. There was no hepatosplenomegaly noted nor any other lymphadenopathy.

The remainder of his physical examination was essentially unremarkable. The initial complete blood count revealed a hemoglobin of 12.4 g/dl, hematocrit of 37%, white blood cell count of 500/mm³ with no neutrophils seen on the peripheral smear. The platelet count was 69,000/mm³ on admission. Blood cultures were drawn at that time and later were found to be positive for pneumococci on two different specimens. The bone marrow aspirate revealed absence of granulocytes. Leukocyte precursors such as myeloblasts, promyelocytes and myelocytes while present were not increased in number and were not morphologically abnormal. Megakaryocytes were adequate. Overall cellularity was normal. The patient experienced marked respiratory difficulty due to the exudate in his throat. An emergency tracheostomy was performed, however this was complicated by cardiac arrest. Following a successful resuscitation the patient never regained consciousness, remained hypotensive and without urine output until his death 24 hours later.

Review of the medications that the patient was on, the duration of administration, and previous

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association with blood dyscrasia of any of these medications was undertaken. Hydrochlorothiazide was taken for 40 days prior to the onset of this illness and has previously been associated with a single case of agranulocytosis.³ Furosemide was also taken for 40 days prior to onset of the illness and has not been reported to cause leukopenia or agranulocytosis except for one case report of a patient who developed leukopenia post-renal transplant while taking 1000 mg daily. That patient was also taking Immuran, a drug known to be associated with leukopenia, and did not exhibit the classical clinical picture of Schultz's syndrome. Spironolactone was taken for approximately 40 days prior to onset of illness and to our knowledge has never been associated with leukopenia. The compound brompheniramine, phenylephrine, phenylpropranolamine (Dime-tapp) was taken for seven days and has not in itself ever been associated with a blood dyscrasia. However, Chlorpheniramine, a close relative, has been previously associated with thrombocytopenia. Other antihistamines have been associated with agranulocytosis.^{1,2,4}

Table I shows all patients with Schultz's syndrome seen at the Little Rock Veterans Administration Hospital from 1971 through 1976. There was mild anemia present in all three cases, the platelet count was normal except in one case, and only the white count was markedly decreased. There was almost a total absence of neutrophils from the peripheral blood smear in all three patients. In the first case the offending agent was

thought to be Dilantin since it has been associated with drug induced agranulocytosis on several occasions. In the second case the offending agent was thought to be Butazolidin which has also been implicated in drug induced agranulocytosis. We have already discussed the medications taken in the third case.

DISCUSSION

Schultz's syndrome is characterized by a latent period of drug ingestion in which sensitization occurs. This period does not appear to be dose related. Following a second drug challenge there is a sudden destruction of all granulocytes in the peripheral blood. This is associated with chills, extremely high fever, prostration, and later a severe sore throat. Gangrenous ulceration of the mucosal membranes including the oral mucosa usually occur. A rash may be noted in approximately 10% of the cases. The course of the illness may be rapidly progressive to death which is usually secondary to shock and sepsis. There appears to be a selective destruction of granulocytes and their stem cells in this syndrome. Peripheral blood shows reduced leukocytes with almost complete absence of neutrophils. Absolute monocytosis may be present. Anemia and thrombocytopenia while not part of the classical picture have been recorded on occasion. Coagulation studies are usually normal. The bone marrow aspirate shows normal red cell precursors, normal megakaryocytes, and immature myeloid precursors or on occasions a total absence of these precursors. The immunological mechanism re-

TABLE 1
CASES OF AGRANULOCYTOSIS
SEEN AT THE LITTLE ROCK VETERANS
ADMINISTRATION HOSPITAL FROM 1971-1976

<i>Case</i>	<i>Hgb*</i>	<i>Hct+</i>	<i>Platelet Count</i>	<i>WBC Count#</i>	<i>% Neutrophils</i>	<i>Medications</i>
M. M.	12.4	36	225	1,000	0	Dilantin Cycloplasmol
F. A.	12.2	35	217	300	6	Butazolidin Lomotil Erythromycin
C. T.	12.4	37	69	500	0	Dimetapp Hydrochlorothiazide Furosemide Spironolactone

* = g/dl

= /mm³

+ = %

sponsible for Schultz's syndrome is thought to be as follows.⁶ The offending drug acting as a hapten complexes with a non-specific carrier protein in the patient's blood and, after a period of sensitization, antibody is formed. This antibody appears to be directed primarily against the drug complex. The antigen and antibody then form complexes which have a marked tendency to fix the surface of leukocytes. The mechanisms by which this selectivity occurs is poorly understood but may be related in some cases to surface antigens on the leukocytes. With the addition of complement, destruction of the leukocytes then occurs.

It is obvious that any of the drugs that this patient received *could* have resulted in his blood picture. We tend to exclude furosemide and spironolactone. They have never been reported to be associated with this syndrome. Agranulocytosis has been reported to be associated with hydrochlorothiazide, however, in the single published case the patient was receiving other drugs known to cause this syndrome and the *propositus* did not exhibit the classical clinical picture described by Schultz.³

Antihistamines have been associated with agranulocytosis in cases where they were indistinguishable from those described by Schultz.^{1,2,4} While the Physician's Desk Reference mentions agranulocytosis as a possible adverse reaction of Brompheniramine we believe that this is the first case in which a possible association has been reported.

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Office Orthopaedics

Partial Tendon Lacerations

Kenneth G. Jones, M.D.*

Those surgeons who attend the consequences of trauma will on infrequent occasions encounter patients who have suffered a cleanly incised wound of the distal palm or fingers which, in the course of a proper wound toilet, will reveal that one or more flexor tendons have been incompletely transected. The inescapable necessity of determining the best system of management for that particular patient then confronts the physician.

In the past, many experienced surgeons have recommended that these injuries be managed like completely severed tendons—that is, sutured. Frequently, they have been repaired because the surgeon feared not to do so would invite a complete rupture. Flexor tendons have been thought to have very little inherent powers for healing¹—being primarily dependent upon ingrowth of vessels from its investing synovial sheath.² It was also felt that less adhesions would follow closure of the gap by precise suturing techniques—and lastly, experienced surgeons wished to avoid the potential delayed complication, “trigger finger”, seen on rare occasions following this injury. This problem, when seen, is due to a longitudinal peeling back and rucking of the damaged tendon from the point of injury. A painful mechanical abnormality is created within the tendon sheath which is capable of producing locking and pseudo-locking of the finger.

Most surgeons have not encountered this injury with sufficient frequency to compile meaningful statistics of their own. Recently, several excellent articles relative to this problem have appeared. Another look at the recommendation that par-

tially transected flexor tendons should be sutured is indicated.

Ollinger, Wray, and Weeks³ have demonstrated that the suture of partial lacerations of flexor tendons in chickens will result in a decrease in tensile strength of the tendon and added restriction in the gliding of the tendon, as does immobilization of the digit.⁴ These findings are more understandable when we consider that Matthews and Richards⁵ have demonstrated that flexor tendons within sheaths in the rabbit actually do possess the inherent potential needed for repair and need not be considered dependent on the ingrowth of vessels from their sheath in order to heal.

To put these experimental observations and pertinent conclusions to a clinical test, Wray, Holtman, and Weeks⁶ treated seventeen patients with twenty partial flexor tendon lacerations of the digits of the hand by routine wound care, including resuture of nine digital nerves, but without suture of incompletely lacerated tendon. A mean period of immobilization of six days was used, after which exercise against resistance was avoided for an additional fifteen days.

On followup, they found that one patient lacked 1½ cm. bringing the tip of the injured digit to the distal palmar crease, otherwise, gliding was normal. All other patients experienced recovery with normal tendon function, usually within four to five weeks following the injury. Those patients whose injury was limited to tendon returned to work in one to four weeks. None of these patients experienced rupture of the damaged tendon or tendons, even though the

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injury may have compromised up to 95% of the cross-sectional area of a tendon. None are known to have developed a "trigger finger". Should this rare complication develop, it can be treated at a convenient time, by excision of the tailed out portion of the tendon in order to restore smooth gliding and relieve pain.

So, once again, we come to appreciate that suture of cleanly incised flexor tendon injuries need not be undertaken as a "midnight emergency" in order to obtain optimum results.⁷

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ELECTROCARDIOGRAM

OF THE MONTH

The Department of Cardiology, University of Arkansas College of Medicine

(See Answer on Page 215)

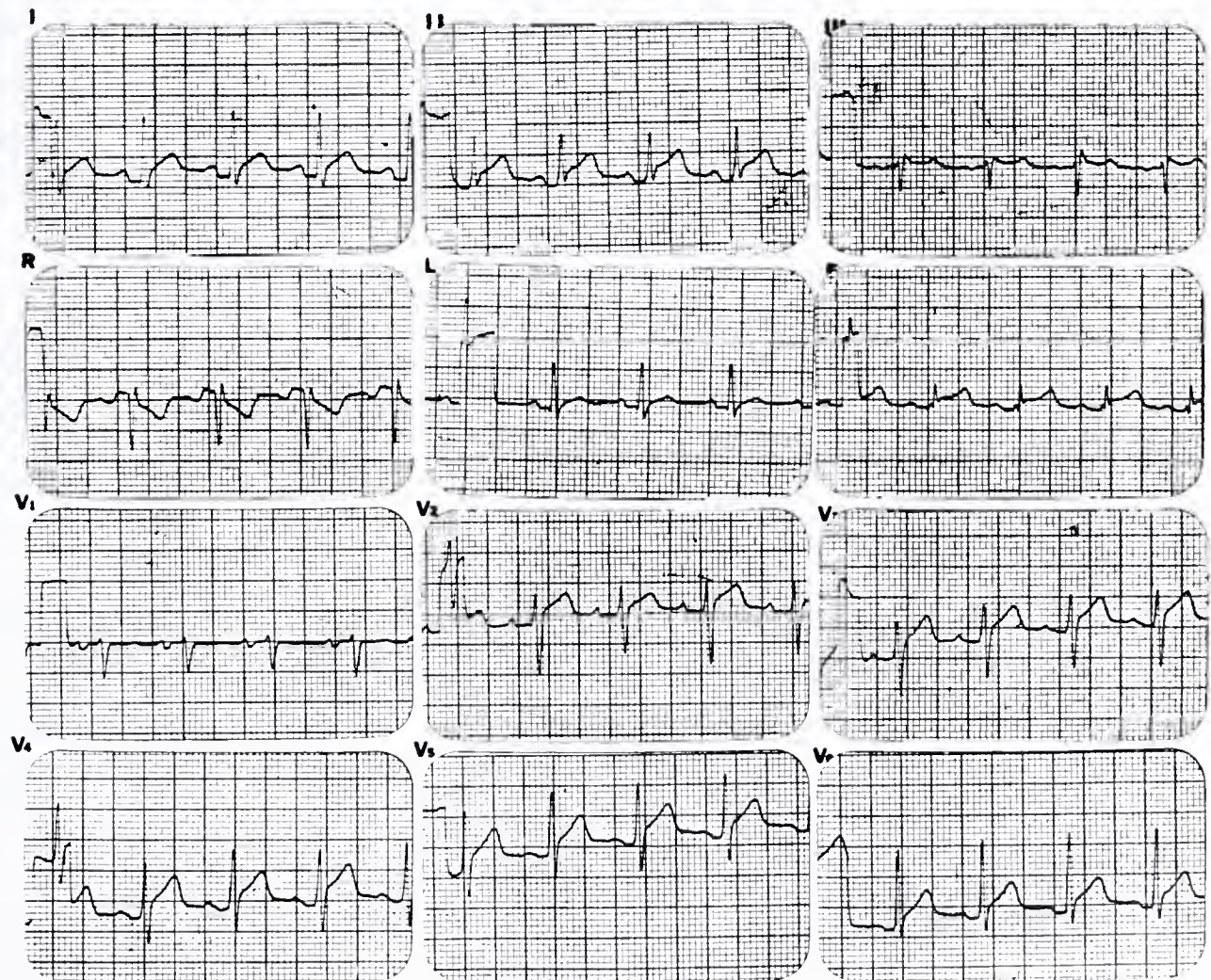
HISTORY: V. J. is a 30-year-old black male who presented to the emergency room complaining of chest pain. The pain had its onset twenty-four hours previously and was described as a severe intermittent precordial and substernal pain with aggravation being noted with deep inspiration and with bodily motion. Some relief was obtained with assumption of the upright posture and with leaning forward. He smoked, had no history of hypertension, and had a family history of diabetes.

Physical examination revealed a massively obese and anxious man whose blood pressure was 150/90 mm. Hg. His neck veins were invisible, basilar rales were present, and no friction rubs were appreciated.

His initial ECG is shown and was essentially unchanged twenty-four and forty-eight hours later.

Based upon the information given, the best diagnosis at this point is:

1. Myocardial infarction.
2. Tietze's syndrome.
3. Pericarditis.



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Intestinal Parasites in Arkansas

Robert T. Howell, Dr.P.H.,* and Stephen K. Waldron, B.S.**

During the past five years the Parasitology Laboratory, Division of Public Health Laboratories, Arkansas Department of Health, has examined an average of 1700 fecal specimens for the presence of intestinal parasites, their cysts or eggs. These specimens are submitted by health department clinics, physicians, private clinics and hospitals or clinical laboratories, usually in the 2-vial Intestinal Parasite kit provided by this laboratory through the county and local health units.

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Upon arrival at the laboratory, the contents of the vial containing formalin for preservation of the specimens are concentrated—using the formalin-ether concentration technique—and examined microscopically for the presence of cysts, eggs, or larvae. The contents of the second vial, containing a small amount of stool specimen in polyvinyl alcohol, are streaked-out on a glass slide, dried, stained with a Trichome stain. This film is examined under an oil immersion objective for the presence of protozoan trophozoites. The 2-vial method enhances the possibility of finding the parasite, especially from the loose stool speci-

TABLE No. I
INTESTINAL PARASITES OBSERVED — ARKANSAS 1974-78

Etiologic Agent	1974	1975	1976	1977	1978	5-Year Total
Protozoa						
<i>Entamoeba histolytica</i>	11	16	13	5	18	63
<i>Giardia lamblia</i>	47	79	82	66	62	336
<i>Dientamoeba fragilis</i>	1	0	2	0	0	3
<i>Entamoeba Coli</i>	81	87	62	66	59	355
<i>Entamoeba hartmanni</i>	4	2	1	0		7
<i>Iodamoeba butschlii</i>	0	0	0	0	2	2
<i>Chilomastix mesnili</i>	0	3	0	0	0	3
<i>Endolimax nana</i>	40	42	33	15	27	157
Nematodes						
Hookworm	9	2	5	1	3	20
<i>Trichuris trichiura</i>	27	3	2	2	5	39
<i>Ascaris lumbricoides</i>	25	34	17	20	10	106
<i>Strongyloides stercoralis</i>	8	4	7	12	5	36
<i>Enterobius vermicularis</i>	4	12	24	9	7	56
Trematodes						
<i>Clonorchis sinensis</i>	0	1	1	0	3	5
Cestodes						
<i>Hymenolepsis nana</i>	2	16	7	12	0	37
<i>Taenia</i> spp.	1	1	1	1	2	6
TOTAL FOUND	260	302	257	209	203	1,231
Stool Specimens Positive	213	278	162	162	171	986
Total Specimens Examined	1,619	1,851	1,562	1,555	1,555	8,142
Percent Positive	13.2	15.0	10.4	10.4	11.0	12.1

mens which may have few or no cysts and the trophozoites are destroyed in the shipment of the specimens to a central laboratory.

Table Number I shows the prevalence of animal parasites found in this laboratory from human stool specimens for each of the past five years, listed by species. The most common intestinal parasite found during this period was the non-pathogenic protozoan, *Entamoeba coli*. While not pathogenic itself, its presence in so many of the specimens examined indicates the potential for invasion of the host by the true pathogenic species, such as *Entamoeba histolytica*, should it be in the environment. The high prevalence of *Giardia lamblia*, a "sometimes" pathogen, often present along with *E. coli* in the same specimen, strengthens this supposition. A

few identifications of nematodes, cestodes, and rare trematodes are made each year (Table I). The most common of the first group being *Ascaris lumbricoides*, *Trichuris trichiura*, Hookworm, and *Strongyloides stercoralis*. *Enterobius vermicularis* is often found, although examination of stool specimens is much less satisfactory than scotch-tape films for this organism. It should be emphasized that these figures, and those that follow regarding the Region and Nation, do not represent the true intestinal parasite morbidity but only the prevalence of these parasites as found in specimens submitted to this and other public health laboratories. Many clinical and hospital laboratories perform these examinations and we have no way of knowing what numbers and percentages of identification are found locally or the

TABLE No. II
COMPARISON OF ARKANSAS, REGIONAL AND NATIONAL
FIGURES ON IDENTIFICATION OF INTESTINAL PARASITES

Etiologic Agent	National ¹		Regional ^{1, 2}		Arkansas ³	
	Number	%	Number	%	Number	%
Protozoa, Pathogenic						
<i>Entamoeba histolytica</i>	2,486	0.6	154	0.3	13	0.8
<i>Giardia lamblia</i>	14,773	3.8	3,422	5.7	67	4.1
<i>Dientamoeba fragilis</i>	1,588	0.4	7	—	1	—
<i>Balantidium coli</i>	21	—	6	—	0	—
<i>Isospora belli</i>	3	—	0	—	0	—
Protozoa, Non-pathogenic ⁴	29,482	7.6	3,774	6.3	105	6.4
Nematodes						
Hookworm	3,216	0.8	305	0.5	4	0.2
<i>Trichuris trichiura</i>	8,796	2.3	2,612	4.3	8	0.5
<i>Ascaris lumbricoides</i>	9,207	2.4	1,742	2.9	20	1.2
<i>Strongyloides stercoralis</i>	757	0.2	59	0.1	7	0.4
<i>Trichostrongylus</i> spp.	22	—	4	—	0	—
<i>Enterobius vermicularis</i>	7,088	7.8	535	0.9	11	0.7
Trematodes						
<i>Clonorchis sinensis</i>	210	0.1	6	—	1	—
<i>Schistosoma</i> spp.	143	—	0	—	0	—
<i>Faciolopsis buski</i>	5	—	0	—	0	—
<i>Fasciola hepaticus</i>	1	—	0	—	0	—
<i>Paragonimus westermani</i>	1	—	0	—	0	—
Cestodes						
<i>Hymenolepis nana</i>	946	0.2	0	—	7	0.4
<i>Hymenolepis diminuta</i>	23	—	0	—	0	—
<i>Taenia</i> spp.	209	0.1	4	—	1	—
<i>Diphyllobothrium latum</i>	25	—	0	—	0	—
<i>Diphyllidium caninum</i>	2	—	1	—	0	—
Positive Specimens	60,383	15.5	10,629	17.6	197	12.1

¹Center for Disease Control: Intestinal Parasite Surveillance, Annual Summary, 1976. Issued August, 1977.

²States include: Louisiana, Texas, Oklahoma, Missouri, Tennessee, and Mississippi for 1976.

³Figures are a 5-year average (FY 1974-1978).

⁴Includes *Entamoeba coli*, *Entamoeba hartmanni*, *Iodamoeba butschlii*, *Chilomastix mesnili*, *Trichomonas hominis*, *Endolimax nana*.

bias caused by selection of the specimens to be submitted to the central state laboratory. We know of no recent, definitive scientific surveys to determine the evidence of intestinal parasites in a normal or random American population. Reporting of parasitic diseases by health practitioners is notoriously poor, probably the worst for all diseases of public health interest.

Table Number II shows some data on the prevalence of intestinal parasites by species as reported to the Center for Disease Control (Atlanta, Georgia) by the state public health laboratories for comparison with the numbers and rate of isolation with the average of the past five years in Arkansas and also in those states, as a group, that surround Arkansas. Again, *G. lamblia* is the most common pathogen observed in all areas, although *E. coli* and the non-pathogenic protozoa are most numerous of all. In recent years the position of *G. lamblia* as a "real" pathogen and a particular scourge of tourists in certain areas of the world, including some parts of the United States, has been re-examined. It has emerged as a problem associated with water supplies, especially from surface waters that are not properly filtered and chlorinated before distribution. It is

felt that this organism is endemic in this country, but most serious outbreaks to date have been associated with foreign trips, e.g. Leningrad or with skiing or camping to the mountain states of the U.S.A.

While *G. lamblia* is the most frequently found, *E. histolytica* is probably the most serious parasitic infection in this country resulting in numerous deaths each year. In Arkansas it is found often in specimens from those areas along the lower Mississippi River and in specimens from institutionalized patients. The numbers shown in the tables are misleading in that many examinations for *E. histolytica* are performed in local, clinical and hospital laboratories.

An examination of Table II will show that identification of those organisms by the central public health laboratory compares with those from the surrounding states and the nation as a whole if allowances for climate are made.

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EDITORIAL

The Cell Surface

Alfred Kahn, Jr., M.D.

The surface of cells used to be depicted in textbooks as being smooth—the cell might have scalloping or irregularities but the surface was never shown as being granular or rough. There is abundant current evidence for demonstrating that the surface of the cell is irregular. This is

demonstrable by both electron microscope, by biochemical studies and immunologic studies. Of much interest in this context is the proved concept that cells have to have surface receptors by which some chemicals and immunologic substances can couple to the cell; unless the substance diffuses

through the cell membrane, attaching to the surface receptor, is an alternate way of producing an intracellular effect. Cyclic adenosine monophosphate is often the apparent intracellular "messenger" from the coupled chemical to various sites inside the cell.

Studies of the surface of lymphocytes have been very fruitful and have led to many interesting findings. Lymphocytes derive from two main sources—bone marrow (known as B cells) and thymus (known as T cells). The B-cells have surface membrane bound receptors and immune globulin molecules. T-cells are characterized by the formation of rosettes with sheep cells; they also are characterized by lysis in certain conditions.

Study of these cell membranes has led into some unusual vistas. For example, Broder, Edelson, Lutzner, Nelson, MacDermott, Durm, Goldman, Meade and Waldmann have studied "The Sezary Syndrome" which is characterized by exfoliative skin rash, lymphadenopathy and circulating malignant lymphocytes. (Journal of Clinical Investigation, Volume 58, p. 1297, December, 1976.) As they point out, T-cells are important in cell mediated immune reactions. They list some of the activities as follows: mediate the mixed lymphocyte reaction, act as killer cells, release lymphokines, and act as either helper cells or inhibitor cells in the transformation of B-cells into plasma cells which can release immune bodies. The authors studied Sezary Syndrome lymphocytes. They confirmed that the Sezary were T-cells and reviewed other works which indicated that as T-cells the Sezary cells could have a spectrum of T-cell function—from very little to considerable. Broder et al found that with regard to potentiating humoral responses the Sezary cells should be classified as helper cells—not suppressor cells. The extension of this finding is that the soluble factors of T-cells might be helpful in some immune states, according to Broder.

Many cells have beta adrenoceptors on their surface. The subject of "The Lymphocyte Beta Adrenoceptors In Normal Subjects and Patients with Bronchial Asthma" by Conolly and Greenacre has been published in *The Journal of Clinical Investigation*, Vol. 58, p. 1307, Dec. 1976. Conolly and Greenacre point out that the dilatation of the bronchial tree is attributable to smooth muscle relaxation Beta adrenoceptor stimulation;

the same receptors mechanisms are also said to inhibit the release of histamine, slow reacting anaphylaxis substance, and prostaglandins. Because of the dangers of human experimentation on the lung, lymphocyte Beta adrenoceptors were studied in normal and asthmatic individuals. Cyclic adenosine monophosphate is an "intracellular hormone" so to speak; the authors measured C-AMP in lymphocytes. They found that Beta adrenergic agonists decreased C-AMP; when the drug was withdrawn, the C-AMP then rose to its normal level. Both asthmatics and normal individuals had a fall in C-AMP when exposed to Beta adrenoceptor agonists. They postulate that the use of Beta adrenoceptors agonists may be responsible for the rise in asthma deaths in recent years.

Bar, Gorden, Roth, Kahn, De Meyts have reported on "Fluctuations in the Affinity and Concentration of Insulin Receptors on Circulating Monocytes of Obese Patients". This study was occasioned by the known fact that in rodents, obese animals had fewer Insulin receptors on liver cells, etc., to bind Insulin. This study extends the study of Insulin binding by cell surface to monocytes of human beings. Their work demonstrated that human monocytes were a particularly good means of studying the relative number of surface Insulin receptors in both obese and normal humans. They further found that obese patients who had an excess circulating Insulin and decreased binding to Insulin receptors could be shown to revert to normal pattern if they were placed on a diet.

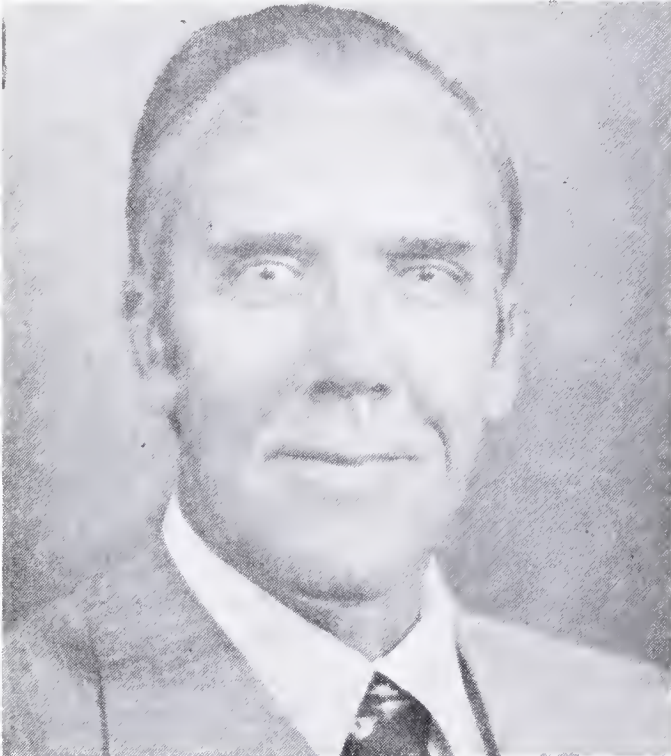
New tools bring new investigative techniques which extend our knowledge. The surface of cells is turning out to be a very complex structure which is highly essential to life.



ANSWER—Electrocardiogram of the Month

DISCUSSION: The best choice is pericarditis, based upon the typical history of the ECG which shows ST elevation in anterior and inferior limb leads and in V_2 - V_6 . There are hints at PR depression. As a rule, ST depression in pericarditis is found only in leads aV_1 and V_1 . The absence of localized changes, reciprocal changes, and evolutionary changes in the ECG helps exclude myocardial infarction.

MEDICINE IN THE



NEW OFFICER OF THE MEDICAL SOCIETY

At the 1978 annual meeting of the Arkansas Medical Society, Dr. George W. Warren of Smackover was elected councilor of the fifth district. The Council is the governing body which serves between meetings of the House of Delegates.

Dr. Warren was born in Petersburg, Tennessee, and received his B.S. degree from the University of Tennessee, Knoxville, in 1949. He was graduated from the University of Tennessee Medical School, Memphis, in 1952, and served a rotating internship at St. Albans Naval Hospital, Long Island, New York. Since completing three years service in the United States Navy in 1956, he has been in practice in Smackover. He is a Family Practitioner and in 1967, served as chief of staff of the Union Memorial Hospital in El Dorado.

Dr. Warren is certified by the American Board of Family Practice and is an assistant clinical professor of Family and Community Medicine at the University of Arkansas College of Medicine.

Dr. Warren has served the Arkansas Chapter of the American Academy of Family Practice as vice president, president elect, president and as a member of the board of directors. He is a past president of the Union County Medical Society and has served as a delegate to the Arkansas Medical

Society.

Dr. Warren is active in community and civic affairs and is the President of the Smackover School Board. He is a member of the First United Methodist Church in Smackover, and of the Masonic Order and South Arkansas Shrine Club.

ASSOCIATE MEDICAL EXAMINER NAMED

Dr. Fahmy A. Malak has been hired as the associate state medical examiner. Dr. Malak is a native of Egypt and prior to this appointment, he was the assistant medical examiner of Cook County Illinois.

DR. SWINDOLL APPOINTED

Dr. Bryant Swindoll, who has been the director of chronic diseases for the State Health Department, has been appointed to the newly established full-time position of medical supervisor of the North Little Rock Health Department.

* * * *

5TH ANNUAL TEXAS MEDICAL CENTER SYMPOSIUM ON INFECTIOUS DISEASES AND MICROBIOLOGY — NEWER ANTIBIOTICS, CHEMOTHERAPEUTIC AGENTS AND VACCINES — USE IN CLINICAL PRACTICE

December 2, 1978

Texas Medical Center, Houston, Texas

Presented by The University of Texas Health Science Center at Houston, Division of Continuing Education. Co-sponsored by The University of Texas Health Science Center at Houston Medical School, Baylor College of Medicine, and The University of Texas System Cancer Center, M. D. Anderson Hospital and Tumor Institute.

Fee: \$5.00

Contact: Division of Continuing Education
The University of Texas Health
Science Center at Houston
P. O. Box 20367
Houston, Texas 77025
(713) 792-4671

Accreditation: This course meets the criteria for 7 credit hours in Category I of the Physician's Recognition Award of the American Medical Association and is acceptable for 7 Prescribed hours by the American Academy of Family Physicians.

keeping up

Category 1 Continuing Medical Education Programs Available in Arkansas

WHAT'S NEW IN UROLOGY

John Redman, M.D., Chief, Urology Department, University of Arkansas College of Medicine. Sponsored by St. Joseph's Mercy Medical Center in Hot Springs, *12:00 NOON, DECEMBER 6, 1978*. Red Room of St. Joseph's (third floor). One hour credit in Category I. Open to all physicians. \$5.00 registration fee for other than St. Joseph's medical staff members.

TUMOR CONFERENCE

Texarkana physicians will present the conference which is sponsored by the Area Health Education Center at Texarkana. Conference to be held at St. Michael Hospital, Texarkana, *7:00 A.M., DECEMBER 6, 1978, and JANUARY 3, 1979*. One hour of Category I credit. No course fee and available to all physicians.

MANAGEMENT OF CHRONIC DISEASE

John H. Bowker, M.D., Professor, Department of Orthopaedic Surgery and Head of Section on Rehabilitation, University of Arkansas College of Medicine. Sponsored by the Section on Rehabilitation, Department of Orthopaedic Surgery; Department of Family and Community Medicine; Continuing Education for Physicians of the University of Arkansas College of Medicine, and by the Arkansas Rehabilitation Institute. *NOTE CHANGE OF TIME AND PLACE from previous listing DECEMBER 8th, 8:45 A.M. until 5:00 P.M. at the Arkansas State Hospital Auditorium, and DECEMBER 9th, 8:30 A.M. until 11:30 A.M. at the Education II Building, 8th floor, Rooms 111 A and B. Ten hours Category I credit. \$50.00 registration fee includes luncheon on December 8th at the Jeff Banks Student Union. Open to all physicians. Toll free information 1-800-482-5578.*

TUMOR CONFERENCE

The faculty of the University of Arkansas and University of Tennessee will present conference. Sponsored by the Area Health Education Center in Jonesboro. *12:00 noon, DECEMBER 12, 1978, at St. Bernards Regional Medical Center in Jones-*

boro. One hour Category I credit. No charge for course or meal. Open to all physicians.

THIRD ANNUAL CRITICAL CARE WORKSHOP (TRAUMA)*

Will be presented by the Bowie-Miller County Medical Society, the University of Arkansas for Medical Sciences-Area Health Education Center, and the Upjohn Company. Sponsored by the AHEC of Texarkana. To be held at the Holiday Inn, *DECEMBER 13, 1978, at 3:00 P.M.* Five hours of Category I credit. There is a \$5.00 registration fee which includes the meal. Open to all physicians.

CHEST CONFERENCE

Presented by the faculty from the University of Arkansas College of Medicine and the University of Tennessee College of Medicine. Sponsored by the Northeast Area Health Education Center at Jonesboro. *11:50 A.M., DECEMBER 15, 1978, at St. Bernard's Regional Medical Center in Jonesboro. One hour Category I credit. There will be a charge of \$1.50 which is the cost of lunch. Open to all physicians.*

THYROID DISEASE

Jack T. Fendley, M.D. will present program. Sponsored by Memorial Hospital of North Little Rock. *DECEMBER 18, 1978, 6:30 P.M., at Memorial Hospital, Memorial Drive, North Little Rock. One hour Category I credit. No registration fee. Open to all physicians.*

CHEST CONFERENCE

Presented by the Pulmonary Department of the University of Arkansas College of Medicine. Sponsored by the Area Health Education Center at Texarkana. *12:30 P.M., DECEMBER 20, 1978, and JANUARY 17, 1979, at St. Michael Hospital in Texarkana. One hour Category I credit. No charge. Open to all physicians.*

MONTHLY PROGRAMS

The following is a list of the regular monthly

*This is a tentative schedule and has not been confirmed.

As organizations accredited for continuing medical education by the Liaison Committee on Continuing Medical Education, the organizations named certify that these continuing medical education activities meet the criteria for the credit hours specified in Category I of the Physician's Recognition Award of the American Medical Association.

scheduled programs offered by Baptist Medical Center in Little Rock.

PULMONARY CONFERENCE to be presented by speakers on varying cases. Sponsored by Baptist Medical Center, 9601 Interstate 630, Exit 7, Little Rock, Arkansas. *EACH TUESDAY at NOON until 1:00 P.M.* in Dining Room 4, at Baptist Medical Center. One hour Category I credit and one hour American Academy of Family Physicians prescribed credit. No charge for course and is open to all physicians.

CENTRAL ARKANSAS PRIMARY CARE CONFERENCE to be presented by varying speakers on various topics. The program is arranged for three individual speakers and a question and answer session. *EVERY SECOND TUESDAY OF THE MONTH, from 7:00 P.M. until 9:00 P.M.,* Baptist Medical Center Auditorium, 9601 Interstate 630, Exit 7, Little Rock. Light supper provided. No registration fee. Two hours Category I credit and two hours American Academy of Family Physicians prescribed credit. Open to all physicians.

BASIC CARDIOPULMONARY RESUSCITATION COURSE FOR PHYSICIANS which will be presented by various instructors. *EVERY SECOND WEDNESDAY OF THE MONTH, from 6:30 P.M. until 10:30 P.M.,* light supper provided, in the Human Resources Development Area of Baptist Medical Center, 9601 Interstate 630, Exit 7, Little Rock. No fee for course but it is limited to a minimum of six and a maximum of twelve participants. Physicians must preregister with the Medical Education Department at Baptist Medical Center. Four hours Category I credit and four hours American Academy of Family Physicians prescribed credit. Open to all physicians.

MORBIDITY AND MORTALITY CONFERENCE with case presentations and review. *FIRST THURSDAY OF EACH MONTH, 8:00 A.M. until 9:00 A.M.,* Conference Room One at Baptist Medical Center, 9601 Interstate 630, Exit 7, Little Rock. One hour Category I credit. Open to all physicians. No fee.

SURGERY CONFERENCE with varying speakers and topics. *EACH THURSDAY (EXCEPT FIRST THURSDAY OF EACH MONTH), 8:00 A.M. until 9:00 A.M.,* Confer-

ence Room One at Baptist Medical Center, 9601 Interstate 630, Exit 7, Little Rock. One hour Category I credit. Open to all physicians. No fee for course.

MEDICINE CONFERENCE to be presented by various speakers on topics that will vary. *FIRST AND THIRD FRIDAY OF EACH MONTH, 11:30 A.M. until 12:30 P.M.,* Conference Room One, Baptist Medical Center, 9601 Interstate 630, Exit 7, Little Rock. One hour credit Category I and one hour American Academy of Family Physicians prescribed credit. Open to all physicians. No fee.



THINGS TO COME

AMERICAN CANCER SOCIETY CONFERENCE

The American Cancer Society will hold a National Conference, "Urologic Cancer—1979", on April 4 through the 6, 1979, at the Los Angeles Hilton Hotel, California. This conference is designed to provide instruction in improving the care of the urologic cancer patient by bringing the best available information in this field to the attention of the general medical community.

Attendance is open to all physicians and medical students. Advance registration is requested and there is no registration fee. The course is approved for fifteen and a half credit hours in Category I of the American Medical Association Physician's Recognition Award. For further information contact the Urologic Cancer Conference, American Cancer Society, 777 Third Avenue, New York, New York 10017.



PERSONAL AND NEWS ITEMS

OTOLARYNGOLOGISTS COURSE PARTICIPANTS

Drs. James J. Pappas and Ellery C. Gay, Jr., of Little Rock recently presented an instructional course entitled "Outpatient Surgery in Otolaryngology". The course was presented during the national meeting of the American Academy of Otolaryngology held in Las Vegas, Nevada, in September.

DR. COLE APPOINTED TO BOARD

Dr. George Cole, Jr., of Fayetteville was recently appointed to the State Game and Fish Commission by Governor David Pryor. Dr. Cole practices Obstetrics and Gynecology in Fayetteville and serves on the teaching staff of the University of Arkansas College of Medicine. He is an acknowledged environmentalist and conservationist in Arkansas.

DR. KOLB ATTENDS MEETING

Dr. W. Payton Kolb of Little Rock attended the American Psychiatric Association's fall committee meetings recently. While there he attended a Testimonial Dinner honoring Dr. Bertram Brown, former director of the National Institute of Mental Health.

DR. CAPLINGER HONORED

Dr. Kelsy Caplinger of Little Rock was presented the 1978 Christian Citizenship Award by the Pulaski County Baptist Association during their awards banquet recently. Dr. Caplinger received the recognition for his "driving force" behind the Aldersgate Medical Camp program.

DR. TRIESCHMANN MEMBERSHIP CAMPAIGN

Dr. John Trieschmann is the area membership chairman of the Easter Seal Society for Crippled Children and Adults fall membership drive. Dr. Trieschmann practices pediatrics in Hot Springs.

DR. WARD GUEST SPEAKER

Dr. Daniel F. Ward of Flippin was recently the guest speaker at the Bull Shoals-Lakeview Rotary Club meeting. Dr. Ward, who is the president of the Marion County Medical Society, is the Federal Aviation Administration Medical Examiner for that area and he discussed the rapid growth of flying in northern Arkansas.

DR. WARREN ATTENDS MEETING

Dr. George W. Warren of Snackover attended the 30th annual scientific assembly of the American Academy of Family Physicians recently held in San Francisco. Dr. Warren attended the annual meeting of the Academy's Congress of Delegates as a delegate from Arkansas prior to the scientific meeting.

DR. HAWKINS SELECTED

Dr. Michael L. Hawkins has been selected for recognition in the 10th edition of "Personalities of the South", a publication by the American Biographical Institute of Raleigh, North Carolina. Dr. Hawkins is a General Surgeon in Mountain Home and serves as the chairman of the Infection Control Committee and the Surgical Intensive Care Unit of Baxter General Hospital. He is also the medical advisor of the Twin Lakes Chapter of the United Ostomy Association.

DR. SINGLETON RECEIVES AWARD

Dr. Mitchell Singleton of Fayetteville was presented the Edward G. Barry, Sr., Award during the Arkansas Lions Twenty-eighth Sight Conservation Forum. The award is designated for outstanding sight conservation work and given by the Arkansas Lions Sight Conservation Committee. Dr. Singleton received the award in recognition of his work in establishing glaucoma screening clinics, amblyopia screenings, and an electroretinography laboratory at Washington Regional Medical Center in Fayetteville and for his work with the Arkansas Enterprises for the Blind and the Arkansas Eye and Kidney Bank. Dr. Singleton is an assistant clinical professor of Ophthalmology at the University of Arkansas College of Medicine in Little Rock and lectures at the Area Health Education Center in Fayetteville.

DR. PULLEN RELOCATES

Dr. Wayne G. Pullen recently joined the professional staff of the Veterans Hospital in Little Rock. Dr. Pullen was previously in Family Practice in DeQueen.

DR. CLARK LOCATES

Dr. Jim Clark has begun practice in Mountain Home. Dr. Clark is a 1975 graduate of the

University of Arkansas College of Medicine and will practice Anesthesiology with his office located at 920 South Baker.

DR. WHITE OPENS NEW OFFICE

Dr. Phillip L. White recently moved into his new Family Practice office on Highway 26 East in Murfreesboro.

DR. SASSER TO ALMA

Dr. Gordon Sasser has begun practice in Alma. Dr. Sasser is a graduate of East Virginia Medical School in Norfolk. He is in general practice.

DR. HOBEROCK SPEAKS

Dr. Thomas R. Hoberock recently spoke to the Twin Lakes Chapter of the American Association of Retired Persons in Mountain Home. Dr. Hoberock gave a slide presentation on "The

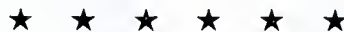
Surgical Aspects of Stroke Prevention". He is a general surgeon with a sub-specialty of vascular surgery at Harrison.

DR. PUPSTA CITY COUNCIL CANDIDATE

Dr. Benedict F. Pupsta was a candidate for alderman in the recent city elections of Clarendon. Dr. Pupsta has been in General Practice in Clarendon for the past twenty-nine years.

DERMATOLOGISTS TO WEST MEMPHIS

Two brothers, Drs. Robert J. and Bertram D. Kaplan, have begun practice at the Medical Center, 200 South Rhodes, in West Memphis. They will specialize in Dermatology. Dr. Robert Kaplan is a graduate of the University of Tennessee at Memphis, and Dr. Bertram Kaplan received his M.D. degree from Jefferson Medical College, Philadelphia, Pennsylvania.



RESOLUTIONS



DR. JEROME S. LEVY

WHEREAS, the members of the Pulaski County Medical Society are deeply grieved by the recent death of one of its most highly esteemed members, Jerome S. Levy, M.D., and

WHEREAS, Dr. Levy had been an active, interested member of the Society for forty-nine years, and

WHEREAS, he had served as President of this Society in 1957; had served as Chairman of the campaign to eliminate poliomyelitis; had been the Society's representative to the Central Arkansas Health Systems Agency; had been Vice President of the Arkansas Medical Society; and had held positions of responsibility too numerous to mention.

BE IT THEREFORE RESOLVED: THAT, this resolution be adopted as an expression of sincere sympathy to Dr. Levy's family, and

THAT, a copy be made available to the Journal of the Arkansas Medical Society for publication; and

THAT, this resolution be made a part of the permanent archives of this Society.

By Direction of the Memorials Committee
Adopted: Executive Committee
September 20, 1978

DR. JOHN WILLIAM SMITH

WHEREAS, the colleagues of John William Smith, M.D., a most valued member of the Pulaski County Medical Society, note with sincere sorrow his recent death; and

WHEREAS, Dr. Smith's unselfish leadership in positions of responsibility in the Society was a major contribution to its growth and influence; and

WHEREAS, he had served as President of this Society in 1961 and had held other offices both in this Society and in the Arkansas Medical Society; and

WHEREAS, the respect held for him by his patients and the community was immeasurable.

BE IT THEREFORE RESOLVED: THAT, this resolution be adopted and made a part of the permanent records of this Society and;

THAT, a copy of this resolution be sent to Dr. Smith's family as an expression of sincere sympathy; and

THAT, a copy of this resolution be made available to the Journal of the Arkansas Medical Society for publication.

By Direction of the Memorials Committee
Adopted: Executive Committee
September 20, 1978



NEW MEMBERS

DR. E. RUSSELL WEBB

The Baxter County Medical Society has accepted Dr. E. Russell Webb into its membership. Dr. Webb was born in Detroit, Michigan, and attended Wayne State University in Detroit, from 1963 until 1967. In 1971, he received his M.D. degree from the University of Michigan Medical School at Ann Arbor. Dr. Webb interned and received his residency training at the William Beaumont Hospital, Royal Oak, Michigan. He served in the United States Army and was the chief of Urology at Reynolds Hospital at Fort Sill, Oklahoma, for two years. In June 1978, Dr. Webb began practicing Urology at the Medical Plaza in Mountain Home.

DR. ROGER C. AERTKER

Dr. Roger C. Aertker has been added to the membership of the Crittenden County Medical Society. Dr. Aertker is a native of Baton Rouge, Louisiana, and received his pre-medical education at the University of Texas in Austin. In 1974, he was graduated from the University of Texas Medical Branch, Galveston, and interned at Maricopa County General Hospital in Phoenix, Arizona. Dr. Aertker received his Internal Medicine residency training at Brackenridge Hospital in Austin, Texas. His office is located in Suite 200, at 228 Tyler in West Memphis.

DR. RAYMOND E. WOLEJKO

The Crittenden County Medical Society has accepted Dr. Raymond E. Wolejko into its membership. Dr. Wolejko, a native of Greenfield, Massachusetts, received his A.B. degree from Harvard University at Cambridge in 1971. He was graduated from Harvard Medical School in 1975, and completed his internship and two years residency training at Dartmouth-Hitchcock Medical Center, Hanover, New Hampshire, in 1978. Dr. Wolejko is an Internist at 228 Tyler in West Memphis.

GARLAND COUNTY

The Garland County Medical Society has added the following new members:

DR. GWILYM A. EDWARDS, who is a native of Middle Point, Ohio. In 1932, Dr. Edwards received his B.A. degree from Vanderbilt University, Nashville, Tennessee, and in 1935, he was graduated from Vanderbilt University School of Medicine. Dr. Edwards interned at Toledo Hospital, New Haven, Connecticut, and received his residency training at New Haven Hospital and Yale University School of Medicine in New Haven. He is certified by the American Board of Otolaryngology.

Dr. Edwards was an instructor of Otolaryngology at Yale University Medical School and practiced in Lima and Van Wert, Ohio, prior to retiring to Hot Springs Village.

DR. G. DAN KIMBERLIN, who was born in Baton Rouge, Louisiana. Dr. Kimberlin received his B.S. degree in 1970 from Louisiana State University and in 1974, he was graduated from Louisiana State University School of Medicine in New Orleans. He served his internship and received his residency training at Charity Hospital, New Orleans. Dr. Kimberlin is specializing in Obstetrics-Gynecology at the Burton-Eisele Clinic, 101 Whittington, Hot Springs.

DR. MARTIN A. KOEHN, who is a native of Fairview, Oklahoma. Dr. Koehn graduated from Wheaton College, Wheaton, Illinois, in 1965, with a bachelor of science degree in Zoology. He was graduated from Baylor College of Medicine, Houston, Texas, in 1969, and completed his internship at Denver General Hospital, Colorado. Dr. Koehn served in the United States Air Force from 1970 until 1972, and completed his Family Practice residency at Charlotte Memorial Hospital, North Carolina, in 1975. Dr. Koehn is certified by the American Board of Family Practice and is in practice in Hot Springs, where he is associated with the Burton-Eisele Clinic at 101 Whittington.

DR. JOHN B. SIMPSON, who was born in El Dorado. Dr. Simpson received his B.S. degree in Zoology from the University of Arkansas in 1968. In 1972, he was graduated from the University of Arkansas College of Medicine, and interned at Charlotte Memorial Hospital, North Carolina. Dr. Simpson received his Family Practice residency training at the Charlotte Hospital, and also served as Lieutenant Commander of the Medical

Corps, United States Naval Reserves, Department of Family Practice, Charleston Naval Regional Medical Center, South Carolina. He is certified by the American Board of Family Practice and is associated with the Burton-Eisele Clinic in Hot Springs.

DR. LLOYD G. BESS

Dr. Lloyd G. Bess has been accepted into the membership of the Independence County Medical Society. Dr. Bess was born in Saint Louis, Missouri, and received his B.A. degree from the University of North Carolina, Chapel Hill, in 1963. He was graduated from the University of Mississippi School of Medicine at Jackson in 1968, and completed his internship at Maricopa County General Hospital, Phoenix, Arizona. From 1971 until 1974, he served a Diagnostic Radiology residency at the University of Arkansas Medical Center in Little Rock. Dr. Bess was in practice from 1974 until June 1978 in Greenville, Mississippi, prior to locating at 929 Broad Street in Batesville where he specializes in Diagnostic Radiology. Dr. Bess is certified by the American Board of Radiology.

JEFFERSON COUNTY

The following new members have been accepted into the membership of the Jefferson County Medical Society:

DR. JAMES C. CAMPBELL, JR., who is a native of Little Rock. Dr. Campbell graduated from Emory University in Atlanta, Georgia, with a B.A. degree in 1966, and in 1970, he received his M.D. degree from the University of Arkansas College of Medicine. Dr. Campbell served a rotating internship at the University of Oregon Hospital and Clinics in Portland. He served in the United States Navy from 1971 until 1973. Dr. Campbell received his Internal Medicine and Pulmonary Medicine residency training at the University of Mississippi at Jackson. He has served as Consultant Physician to the Mississippi State Board of Health in Tuberculosis Control. Dr. Campbell is certified by the American Board of Internal Medicine and specializes in Pulmonary Medicine at 1701 Doctors Drive in Pine Bluff.

DR. JOHN D. DEDMAN, who is a native of Little Rock. Dr. Dedman graduated from Hendrix College at Conway with a B.A. degree in 1971, and from the University of Arkansas College of Medicine in 1975. Dr. Dedman completed his

internship and Internal Medicine residency training at the University of Arkansas Medical Center and the Veterans Administration Hospital in Little Rock. He is an Internist with Medical Associates, 1421 Cherry, Pine Bluff.

DR. DAVE A. ROBERTS, who was born in Parsons, Kansas. He received his pre-medical education at the University of Missouri in Columbia, and was graduated from the University of Missouri School of Medicine at Kansas City in 1973. Dr. Roberts completed his internship at Kansas City General Hospital and Medical Center, and his residency training at the University of Mississippi Medical Center in Jackson. Prior to locating in Pine Bluff, he practiced in Fayetteville. He is a Neurologist at the Doctors Clinic at 1421 Cherry.

DR. THOMAS R. BRASWELL, who is a Family Practice resident. Dr. Braswell, born in Little Rock, received his B.S. degree in biology at the University of Central Arkansas in Conway, in 1974. He was graduated from the University of Arkansas College of Medicine in 1978, and is currently serving at the Area Health Education Center, 1515 West 42nd in Pine Bluff.

DR. ROBERT B. CLARK, who is a Family Practice resident. After his pre-medical education was received at the University of Arkansas and Henderson State University in Arkadelphia, he was graduated from the University of Arkansas College of Medicine in 1978. He is in residency training with the Area Health Education Center in Pine Bluff.

DR. MICHAEL D. LACK, who is a native of Waco, Texas. He graduated from Arkansas State University with a B.S. degree in Zoology in 1971, and a M.A. degree in Biology from Washington University, Saint Louis, Missouri, in 1973. In 1978, Dr. Lack was graduated from the University of Arkansas College of Medicine. He is currently associated with the Area Health Education Center in Pine Bluff as a Family Practice resident.

DR. C. LOUIS WHITE, who was born in Batesville. Dr. White obtained his B.S. degree from the University of Arkansas at Monticello in 1971, and his M.D. degree from the University of Arkansas College of Medicine in 1976. He served his internship at the University of Arkansas Medical Center and was in private practice in

Snackover for a year. Dr. White is in Family Practice residency training at the Area Health Education Center in Pine Bluff.

* * * *

DR. JOHN R. McAULEY

The Johnson County Medical Society has accepted Dr. John R. McAuley into its membership. Dr. McAuley was born in Evanston, Illinois, and received a B.S. degree in 1965 from Loyola University at Chicago, Illinois. He completed studies for his master of arts degree in 1968 at Purdue University at Lafayette, Indiana, and was graduated from the University of Arkansas College of Medicine in 1975. Dr. McAuley received his intern and residency training in Family Practice at John Peter Smith Hospital in Fort Worth, Texas. He is associated with the Clarksville Medical Group, 600 Lucas, as a Family Physician.

DR. GEORGE W. TAYLOR

Dr. George W. Taylor has been added to the membership of the Johnson County Medical Society. He is a native of Clarksville and received his pre-medical education at Arkansas Tech University in Russellville, receiving a B.S. degree in 1972. In 1977, he was graduated from the University of Arkansas College of Medicine, and served a year Family Practice residency training with the Area Health Education Center in Fort Smith. Dr. Taylor is a Family Physician with the Clarksville Medical Group at 600 Lucas.

DR. MAURICE J. ELOVITZ

The Phillips County Medical Society has accepted Dr. Maurice J. Elovitz into its membership. Dr. Elovitz was born in Boston, Massachusetts, and received an A.B. degree from Harvard University in 1953, graduating summa cum laude. He was graduated from Harvard Medical School in Boston, in 1957, and interned at Boston City Hospital. He received his Surgery residency training on Harvard Service at Boston City Hospital from 1958 until 1962, during which time he was Junior and Senior Assistant Resident, and Chief Resident. From 1962 until 1963, he was Chief Resident at New England Deaconess Hospital in Boston. Dr. Elovitz served in the United States Army Medical Corps at Walter Reed Army Medical Center in Washington, D. C., from 1963 until 1965. He was in practice in New York City from 1965 until 1969, and during this time, he was appointed director of Trauma Service,

Maimonides Medical Center at Brooklyn, New York. Dr. Elovitz entered practice in Atlantic City, New Jersey, in 1969, and was the program director of Surgery, Chief of Education in Surgery, Acting Director of Medical Education, Director of Audio-Visual Medicine Service, Surgeon of the Oncology Clinic, chief clinical assistant surgeon of Outpatient Department at the Atlantic City Medical Center. Dr. Elovitz also served as the attending surgeon, director of medical education, and director of audio-visual communications to the Betty Bacharach Rehabilitation Center. Dr. Elovitz was an assistant professor of surgery at State University of New York at Buffalo, from 1965 until 1969, and associate professor of surgery at Thomas Jefferson University and Hahnemann Medical College in Philadelphia, Pennsylvania, from 1969 until 1977. Dr. Elovitz is certified by the American Board of Surgery and is in practice at 408 Porter Street in Helena, specializing in General Surgery.

DR. LARRY D. BATTLES

Dr. Larry D. Battles has been accepted into the membership of the Pope County Medical Society. Born in Batesville, Dr. Battles graduated from the University of Arkansas School of Pharmacy in 1965, and the University of Arkansas College of Medicine in 1973. He completed his internship and two years of Internal Medicine residency training at the University of Arkansas Medical Center. From 1975 until July 1978, he was in Obstetrics-Gynecology residency at the University of Oklahoma at Tulsa Medical College. Dr. Battles is an Obstetrician-Gynecologist with the Millard-Henry Clinic, 3105 West Main Place, Russellville.

PULASKI COUNTY

The following have been added to the membership of the Pulaski County Medical Society:

DR. FRANCISCO BATRES-SOZA, who is a native of Guatemala, South America. He received his pre-medical education at the Colegio Hispano Americano, Guatemala, and in 1972, he was graduated from San Carlos University School of Medicine in Guatemala. He completed his internship at St. Joseph Hospital in Memphis, Tennessee, and from 1974 until 1976, he was in Obstetrics-Gynecology residency training at the University of Arkansas Medical Center. Dr. Batres-Soza served as an instructor of Obstetrics-Gynecology at

NEW MEMBERS

the University of Arkansas College of Medicine from 1977 until 1978, and is the Assistant Professor at this time.

DR. GEORGE M. GOZA, JR., who is a native of Atlanta, Georgia. Receiving his B.A. degree in 1950 from Emory University, Atlanta, and his M.D. degree from Emory University School of Medicine in 1950, he interned at the Atlanta Veterans Administration Hospital. He was in residency training at the Yale University Medical Center in New Haven, Connecticut, from 1955 until 1956; Internal Medicine residency for a year at Atlanta Veterans Administration Hospital; Cardiology residency from 1957 until 1958 at Emory Hospital in Atlanta, Georgia, and served as an Instructor of Medicine at the University; and from 1972 until 1973 Dr. Goza was a Cardiology resident at the University of Minnesota at Minneapolis. Dr. Goza practiced in Atlanta, Georgia, from 1958 until 1970 and then moved to Cumberland, Wisconsin, in 1970. He remained at Cumberland until 1978 when he relocated his office in Little Rock. Dr. Goza has his office at the Baptist Medical Arts Building in Suite 510 and specializes in Internal Medicine.

DR. RICHARD Y. HENRY, who was born in Kansas City, Missouri. Dr. Henry received his B.S. degree from the University of Arkansas in 1970, and was graduated from the University of Arkansas College of Medicine in 1974. He completed his internship at St. John's Hospital, Tulsa, Oklahoma, and in 1978 he completed an Ophthalmology residency at the University of Cincinnati Medical Center in Ohio. Dr. Henry is in practice at 405 North University in Little Rock.

DR. D. RICHARD JOHNSON, who is a native of Magnolia. Dr. Johnson graduated from Southern State College at Magnolia with a B.S. degree in Biology in 1967. He received his medical degree from the University of Arkansas College of Medicine in 1971, and interned at Memorial Medical Center, Corpus Christi, Texas. Dr. Johnson was in residency training in Obstetrics-Gynecology at the University of Arkansas Medical Center from 1975 until 1978. His office is located at 500 South University, Suite 611 in Little Rock.

DR. GREGORY S. KRULIN, who was born in New York City. Dr. Krulin received a B.S. degree from the University of Dayton, Ohio, in 1966, and a M.D. degree from the University of Arkansas

College of Medicine in 1974. He completed his internship and three years Psychiatric residency training at the University of Arkansas Medical Center in 1977. Dr. Krulin has been an assistant professor of Psychiatry at the Medical Center, and is a staff Psychiatrist associated with the Veterans Administration Hospital in North Little Rock.

DR. RICHARD R. NOLEN, a native of Muskogee, Oklahoma. Dr. Nolen received his pre-medical education at the University of Arkansas and Washington and Jefferson College, Washington, Pennsylvania. He was graduated from the University of Arkansas College of Medicine in 1948, and interned at Santa Rosa Hospital, San Antonio, Texas. Dr. Nolen was in General Practice residency at Baptist Hospital in San Antonio from 1952 until 1953, and from 1958 until 1961 he was in Psychiatric residency at Arkansas State Hospital, Little Rock. Dr. Nolen is certified by the American Board of Psychiatry, and serves as an associate professor in the Department of Psychiatry at the University of Arkansas Medical Center. He is associated with the Arkansas State Hospital at 4313 West Markham in Little Rock.

DR. PATRICK N. OSAM, who was born in Fort Dodge, Iowa. Dr. Osam is a graduate of Hendrix College in Conway, receiving his B.A. degree in 1970 with honors. In 1974, he was graduated from the University of Arkansas College of Medicine and remained at the Medical Center where he completed his internship and General Surgery residency training in 1978. Dr. Osam will start his General Surgery practice at 320 Doctors Park Building, Little Rock, in January 1979.

DR. JERRY L. PRATHER, who is a native of Rowles, Wyoming. Dr. Prather graduated from the University of Oklahoma, Norman, in 1964, with a bachelor of science degree, and from the University of Arkansas College of Medicine in 1969. He served a rotating internship at St. John's Hospital, Tulsa, and Diagnostic Radiology residency at Tripler Army Medical Center in Honolulu, Hawaii, from 1971 until 1974. Dr. Prather had a Nuclear Medicine fellowship at William Beaumont Army Medical Center, El Paso, Texas, from 1974 until 1976. He is certified by the American Board of Radiology and the American Board of Nuclear Medicine. Dr. Prather was an associate clinical professor of the Department of

NEW MEMBERS

Radiology in El Paso and at the Tech University Health Services Center, Lubbock, Texas, from September 1976 until 1977, and an associate clinical professor of radiology at George Washington University, Washington, D. C., until 1978.

Dr. Prather has joined Radiology Associates at 500 South University, Little Rock.

DR. MICHEAL L. SELBY, who was born in Jonesboro. Dr. Selby received his B.S. degree in 1969 from Arkansas State University in Jonesboro. He was graduated from the University of Arkansas College of Medicine in 1974 and received his internship and Obstetric-Gynecology residency training at the University Hospital in Little Rock from 1974 until 1978. Dr. Selby is associated with Dr. Richard Johnson in Suite 611 at 500 South University in Little Rock.

DR. JOHN G. SLATER, JR., who is a native of Detroit, Michigan. Dr. Slater obtained his pre-medical education at Vanderbilt University in Nashville, Tennessee, and in 1971, he was graduated from Vanderbilt University School of Medicine. He served his internship at Butterworth Hospital, Grand Rapids, Michigan, and was in Orthopaedic residency from 1974 until 1977, at Henry Ford Hospital, Detroit, Michigan. Dr. Slater is associated with the TCSN Orthopaedic Clinic at 1100 North University, Little Rock.

DR. RALPH M. WYNN, who was born in New York City. Dr. Wynn attended Harvard University at Cambridge, Massachusetts, graduating with an A.B. degree in 1950. He was graduated from New York University School of Medicine, New York City, in 1954. His internship and four years of Obstetric-Gynecology residency training was served at Bellevue Hospital, New York City, which he completed in 1961.

Dr. Wynn is certified by the American Board of Obstetrics and Gynecology. He is a professor and head of the Department of Obstetrics and Gynecology at the University of Arkansas College of Medicine.

DR. EARNESTINE W. OTOVO, who is a resident member. Dr. Otovo, a native of Pine Bluff, received her pre-medical education at Stillman College, Tuscaloosa, Alabama. She was graduated from the University of California School of Medicine at San Francisco in 1976. Dr. Otovo is a Pediatric resident at the University of Arkansas Medical Center.

DR. ROBERT G. RIDOUT, is also a resident member. He was born in Dallas, Texas, and earned his bachelor of arts degree from the University of Texas at Austin. He was graduated from the University of Texas Medical School at San Antonio in 1973. Dr. Ridout is in Radiology and Nuclear Medicine residency training at the University of Arkansas Medical Center in Little Rock.

* * * *

DR. FRANK G. EDMISTON

The Saline County Medical Society has accepted Dr. Frank G. Edmiston into its membership. Dr. Edmiston was born in Crockett, Texas, and received his pre-medical education at Schreiner Institute at Kerrville, Texas, and the University of Texas at Austin. He was graduated from Baylor College of Medicine at Houston, Texas, in 1956, and served a rotating internship at Montreal General Hospital, Montreal, Canada. Dr. Edmiston was in Psychiatric residency at Menninger School of Psychiatry from 1957 until 1958, and at St. Elizabeth's Hospital at Washington, D. C., from 1960 until 1962. He served in the United States Air Force from 1958 until 1960. Dr. Edmiston was in practice from 1962 until 1972, as psychiatric consultant to the Goddard Space Flight Center, Occupational Health Unit. During this time he became interested in occupational medicine and began doing physical examinations and health counseling as well as psychiatric counseling, eventually leading to his specializing in Occupational Medicine. In 1973, Dr. Edmiston served at the Industrial Clinic (Central Medical Center) in Baltimore, Maryland. He became the medical director of General Electric Appliance Park, Columbia, Maryland, from 1974 until 1975, and from 1976 until May 1978, he was the assistant corporate medical director of Burlington Industries, Greensboro, North Carolina. Dr. Edmiston is now associated with the Aluminum Company of America at Bauxite.

DR. MARK W. JUMPER

Dr. Mark W. Jumper has been added to the membership of the Saline County Medical Society. Dr. Jumper is a native of Benton, and received his pre-medical education at Henderson State University, Arkadelphia. In 1978, he was graduated from the University of Arkansas College of Medicine, and is serving his internship at City of Memphis Hospital, Tennessee.

DR. WILLIAM R. McNAIR

The Washington County Medical Society has accepted Dr. William R. McNair into its membership. Dr. McNair is a native of Little Rock and received his pre-medical education at the University of Arkansas, graduating with a B.A. degree in 1967. In 1971, he was graduated from the University of Arkansas College of Medicine. Dr. McNair

remained at the Medical Center to complete his internship and surgery residency training. Dr. McNair served in the United States Air Force and was stationed at Myrtle Beach, South Carolina. He has been staff surgeon at the Veterans Administration Hospital in Little Rock and recently began practice at 1845-B Green Acres Road in Fayetteville, specializing in General Surgery.



O B I T U A R Y

DR. HARLEY C. DARNALL

Dr. Harley C. Darnall of Fort Smith died October 10, 1978, at the age of sixty-six. Dr. Darnall was born in Danville, Illinois, on December 21, 1911.

Dr. Darnall received his pre-medical education at the University of Illinois, Champaign, and Arizona State University, Tempe. In 1941, he was graduated from the University of Arkansas College of Medicine, and served his internship at the Veterans Administration Hospital in Dearborn, Michigan. During World War II, Dr. Darnall served in the United States Army Medical Corps. He completed six and a half years surgical residency training in December 1952 at Detroit, Michigan, and began the practice of Thoracic Surgery in Fort Smith in March 1953.

Dr. Darnall served as the medical director of the tuberculosis sanatorium at Booneville from 1958 until 1959. He was in private practice in Fort Smith until 1971 when he was named the head emergency room physician at Sparks Regional Medical Center in Fort Smith.

Dr. Darnall was a past president of the Sebastian County Medical Society and a member of the American College of Surgeons, the American College of Emergency Physicians, the American

Tuberculosis Society, and the Arkansas Thoracic Society. At the time of his death, Dr. Darnall was serving his third term as the president of the Board of Directors of the Arkansas Lung Association. He was an elder of the First Presbyterian Church of Fort Smith.

Dr. Darnall is survived by his wife, Mrs. Myrna Gould Darnall; two daughters, Miss Deborah Darnall and Mrs. Sarah Vaughan of Fort Smith. Memorials may be made to Sparks Regional Medical Center, the First Presbyterian Church of Fort Smith, and the Arkansas Lung Association.

DR. JEROME S. LEVY

Dr. Jerome S. Levy of Little Rock died September 16, 1978. Dr. Levy was born September 27, 1902, in Morganfield, Kentucky. He was an honor graduate of Hot Springs High School and was graduated from Washington University at St. Louis, Missouri, in 1925. He interned at Jewish Hospital and the Missouri Pacific Hospital in St. Louis. Dr. Levy was an assistant in surgery at Washington University School of Medicine and completed his residency at the Missouri Pacific Hospital in St. Louis.

Dr. Levy began practice in Little Rock in 1929, specializing in Internal Medicine and Gastroenterology. He had served as professor at the College of Medicine since 1945 and last year, he received the Robert S. Abernathy Award from the Arkansas Chapter of the American College of Physicians for his outstanding achievement and contribution of his time to teach approximately 3,000 medical students since his assistance in establish-

ing the Division of Gastroenterology at the College of Medicine in 1929. The annual Jerome Sickles Levy lectures in gastroenterology were established at the University and a Jerome S. Levy Professorship is in the process of being established.

Dr. Levy had been appointed to serve on the statewide Health Coordinating Council for two years by Governor Pryor in April 1978. He was the chairman of the Central Arkansas Council for Comprehensive Health Planning, a member of the Advisory Board of the Arkansas Regional Medical Program, a diplomate in gastroenterology of the American Board of Internal Medicine, a fellow of the American College of Physicians, of which he was Arkansas Governor from 1963 until 1971, and a fellow of the American College of Gastroenterology. Dr. Levy was vice president and a member of the Southwest Regional Board of the American Jewish Committee and a member of the Administrative Board of the Leo N. Levi Memorial Hospital in Hot Springs. Dr. Levy was a past president of the Pulaski County Medical Society, and a former secretary and past president of the Arkansas Tuberculosis Association. He was a founding member of the Zeta Beta Tau Fraternity at Washington University.

Dr. Levy was a veteran of World War II and served as base surgeon in the Fiji Islands and as chief of medicine at stations in Korea.

Dr. Levy is survived by his wife, Mrs. Marion Lee Levy; and two daughters, Mrs. Carol Levy Schulman and Miss Jere-Jane Levy of St. Louis, Missouri. Memorials may be made to the Leo N. Levi Hospital in Hot Springs or to the Jerome S. Levy Endowment Fund, c/o Dr. Clinton Texter, 4301 West Markham, Little Rock, Arkansas 72201.

DR. JOHN W. SMITH

Dr. John W. Smith of Little Rock died September 20, 1978, at the age of sixty-nine. Dr. Smith was born February 10, 1909, at Fordyce and had been in practice in Little Rock since 1938, specializing in Otorhinolaryngology.

Dr. Smith was the son of the late Arthur Ewing and Mary James Smith, and a graduate of Vanderbilt University and the College of Physicians and Surgeons, Columbia University, New York City, receiving his M.D. degree in 1935. Dr. Smith served his internship at St. Francis Hospital at Hartford, Connecticut, and his residency training in Otorhinolaryngology was received at Columbia University Hospital in New York City.

Dr. Smith was a former chief of staff at Baptist Medical Center and served on the medical staffs of St. Vincent Infirmary and Doctors Hospital in Little Rock. He was an associate professor of otolaryngology at the University of Arkansas College of Medicine. Dr. Smith was a former eighth district councilor of the Society, a past president of the Pulaski County Medical Society, and a fellow of the American Academy of Ophthalmology and Otolaryngology.

Dr. Smith was a veteran of World War II, having served in the China-Burma-India theatre, and was active in civic organizations in Little Rock. He was a member of the First United Methodist Church in Little Rock and a member of the Trinity Masonic Lodge, the Arkansas Consistory and the Scimitar Shrine Temple.

Dr. Smith is survived by his wife, Mrs. Frances Hill Smith; two sons, William A. Smith and John Thomas Smith (Tom) of Little Rock; and one daughter, Mrs. Suzanne S. Godwin of Little Rock.



Opportunities to Practice Medicine in Arkansas

DANVILLE. Population 1,700. Opportunity exists to establish family practice. Presently two family practitioners practicing in the community. There is a 56-bed hospital. Local physicians will assist new practitioner in developing practice. Danville is located near the beautiful Ouachita National Forest.

VAN BUREN. Population 9,500 with a trade area of approximately 35,000. Opportunities exist in family practice, pediatrics, obstetrics-gynecology, and internal medicine. There is a 99-bed general hospital in the community. Van Buren is located on the Arkansas River at the foot of the Ozark Mountains.

BALD KNOB. Population 2,000 with a trade area population of approximately 20,000. New clinic was opened in January 1978, including laboratory and x-ray facilities. Bald Knob is located 10 miles from Searcy which has two 100-plus bed hospitals. Searcy is the home of Harding College and the area offers an abundance of social and recreational activities. Opportunity exists for a family practitioner.

BATESVILLE. Population 7,500 with a trade area population of approximately 40,000. Opportunity exists for family practitioners, orthopaedist, obstetrician, and otolaryngologist. Batesville has two hospitals with a combined bed capacity of 160 and there are presently eleven family practitioners, one ophthalmologist, two general surgeons, one radiologist, one pediatrician, and one pathologist practicing in Batesville.

BLYTHERVILLE. Population 25,000 with a trade area population of approximately 100,000. Opportunities exist in internal medicine, obstetrics, gynecology, pediatrics and orthopaedic surgery either in solo or group practice. There are presently 14 practicing physicians in the city and one new 160-bed hospital.

CORNING. Population 3,500 with a medical trade area of approximately 25,000. Opportunities exist for two family practitioners and one general surgeon. There is a new 40-bed general hospital, recently completed in the community.

MANILA. Population 2,500 with a trade area of approximately 15,000. Opportunities exist for family practitioners and an internist. A new 32-bed general hospital is presently under construction and will be completed in the fall of 1978.

MARIANNA. Population 6,200 with a trade area population of 18,000. Opportunities exist in family practice, general surgery, and internal medicine. There are presently three family practitioners in the community and a 25-bed general hospital. Marianna is located 60 miles southwest of Memphis, the home of the University of Tennessee School of Medicine, as well as the largest medical complex in the South.

For further information on these and other opportunities contact

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LAW and MEDICINE

A New Forum

Frederic K. Spies, J.D., LL.M.,* and Alma F. Houston, M.D.**

Today, for the physician who has the curiosity and time, there are many publications which carry legal matters of interest, from the occasional column in the *New England Journal of Medicine* to the *American College of Legal Medicine's* journal, "Legal Aspects of Medical Practice." The latter is devoted entirely to medical practices and decision making which have legal consequences. Comparing the volume of written material currently available to the time most of us have to consume it suggests that the linearly printed word is becoming obsolete as a means of communication. It is no wonder that the conscientious physician, struggling to keep abreast of developments in his own discipline, hardly can be expected to wrestle with legal dogma.

Unfortunately, much of what appears in medical publications is "digested" material, merely an expository summary which describes a case or two with the author's projection, frequently dire, of what the cases might mean to the medical profession. In addition to being fragmentary, the digests are sometimes biased—and, on occasion, actually inflammatory. In this column, we hope to present legal developments in a useful form to physicians, with suggestions for intelligent decisions and actions.

Apart from formal specialization—which now is appearing in the legal profession, most physicians and lawyers know their own limitations and refuse to undertake or refer cases which are beyond their competence. Advancing medical technology and legal change may combine, however, and overtake the unaware practitioner in unexpected ways.

Consider, for example, the effect of the new rules on abortion when coupled with recent case

law on "When does life begin?" and the technique of amniocentesis.

Almost everyone is familiar with the case of *Roe v. Wade*,¹ decided by the United States Supreme Court in 1973. The Court held that a woman has the absolute right to terminate a pregnancy during the first trimester (and thereafter, depending on state law). In effect, this case means that the zygote or fetus during that period is not a "person" entitled to protection under the United States Constitution.

In quite a different vein, the courts had long struggled to define when a fetus has sufficient legal identity to recover for injuries inflicted in utero. In the famous case of *Dietrich v. Inhabitants of North Hampton*, an 1884 Massachusetts case, Justice Oliver Wendell Holmes (later of the United States Supreme Court) held that legal capacity was contingent upon the ability of the fetus to survive, even if only momentarily, after birth. In answer to the question, "When does life begin?" medicine chose the term "viability," which existed generally at 28 weeks gestation, when the fetus could exist apart from the mother. But it was not until 1946, in the District of Columbia, that a court held there would be a right of recovery if an infant was viable in the medical sense at the time of injury.

Subsequently a number of state courts adopted the viability test. Under this test, however, the rule remained that a child does not have a legal action if born illegitimate or with birth defects. The reasons were threefold: first, such injuries are not foreseeable; second, imperfect life is better than no life at all; and third, birth defects, even if foreseeable and preventable, could not be forestalled because abortion was illegal.

In 1964, a remarkable New York case² was decided in which the mother, while an inmate of a mental institution, was raped by another inmate.

*Professor of Law, University of Arkansas at Little Rock, School of Law, and Professor of Legal Medicine, College of Medicine, University of Arkansas for Medical Sciences, Little Rock.

**Child psychiatrist in private practice in Little Rock and a third year student at the UALR School of Law.

The event resulted in the birth of the plaintiff, who sued the natural father for what now is called the tort of "wrongful life." The damages sought were those that any child might ask who was deprived of the companionship and support of his legitimate father. Of necessity, the New York court had to concede that the tort had been committed on the zygote *simultaneously with its conception*. Thus, legal capacity was conferred on the plaintiff far earlier than medical viability or the limits set down in the earlier legal cases.

It has not been decided in Arkansas that the tort of wrongful life exists, nor, for that matter, can a child sue his parents in this state. But suppose that he could. What effect would the inadvertent combination of the doctrines just discussed have on the medical profession? Many transmissible genetic disorders now can be detected in the first three months of pregnancy by amniocentesis. If the parents' physical appearance or family history suggests a possible genetic defect, what duty is imposed on the attending physician? Mere failure to offer a test for genetic disorder might be considered negligence, with a cause of action in the parents or the child. If defects are detected and the fetus permitted to come to term rather than aborted, the child might have a cause of action against his parents. Critical ethical problems might well arise. In screening for autosomal recessive disease, such as Tay-Sachs disease or sickle cell anemia, both parents of an

affected child might be expected to be carriers. Suppose that testing reveals that the father is not a carrier? The inference of adultery is ineluctable. In the absence of inquiry, the physician might ethically remain silent. Would the physician be liable to the husband should he fail to mention what the facts infer?

These and other such problems were presented during Pediatric Grand Rounds by one of the authors³ in October, 1977, at University Hospital. Shortly thereafter, in December, the case of *Park v. Chessin*⁴ was decided in New York. The parents had lost a five year old infant to polycystic kidney disease. Defendant obstetricians, whose specific advice on the matter was sought by the parents, informed them that the risk of subsequent children inheriting the disease was "practically nil." In reliance on the advice, the parents had a second child who was affected, of course, and died after two and a half years. The court held that a physician who is consulted by prospective parents to determine whether they are at risk for genetic disease must observe the usual legal standard of medical care.

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2. *Williams v. State*, 46 Misc. 2d 824, 260 N.Y.S. 2d 953 (Ct. Cl. 1965).
3. FKS.
4. 60 App. Div. 2d 80, 400 N.Y.S. 2d 110 (1977).



Psychophysiologic Disorders

Fred O. Henker, III, M.D.*

Introduction

One of the most misunderstood categories of disease is that of psychophysiologic disorders. Somehow a mistaken impression emerges that there is no organic pathology or that an attempt is being made to displace consideration of organic pathology with psychological formulations. In fact not only is the full organic disturbance recognized but also the psychic element is presented as a contributory factor, adding to the understanding of the former. Thus, psychophysiologic disorders constitute a fertile ground for productive collaboration between psychosomatically oriented physicians and those of a more pragmatic anatomical and physical foundation. The purpose of this paper is to present a summary of information relative to psychophysiologic disorders in order to clarify the interaction of physical and psychological factors.

Definition

Psychophysiologic disorders are defined in the American Psychiatric Association glossary as "A group of disorders characterized by physical symptoms that are caused by emotional factors and that involve a single organ system, usually under autonomic nervous system control." They are distinctly different from the conversion type of hysterical neurosis which is defined as: "An hysterical neurosis manifested by disorders of the special senses or the voluntary nervous system such as blindness, deafness, anesthesia, paresthesia, pain, paralysis, and impaired muscular coordination." The essential difference is that the former involves viscera under autonomic control while the latter concerns sensory-motor innervated organs. Another source of confusion is the term "psychosomatic" which is defined as: "Adjective to denote the constant and inseparable interaction of the psyche (mind) and the soma (body)."¹ It is often used synonymously with psychophysiologic but in the truest sense could be applied in any case where consideration is given to both mind and body. Diagnostic and Statistical Manual I listed these conditions as "Psychophysiologic Autonomic and Visceral Reactions" while in Diagnostic and Statistical Manual II they are referred to as "Psychophysiologic Disorders".² The

various types with examples of each are given in Table I.

Historical Perspective

Historically the psychophysiologic concept is not new. It dates back at least to Socrates and Hippocrates who both wrote of the mind-body interaction in the fourth century B.C.³ Early contemporary scientific study is interestingly portrayed in the well known observations in 1833 by William Beaumont of changes in gastric functions associated with emotional reactions in the patient Alexis St. Martin.⁴ In 1915 Cannon described mobilization for fight or flight of the stressed individual associated with a rise in adrenomedullary secretion.⁵ Hess in 1924 pointed out the influence of subcortical centers coordinating autonomic, somatic and psychic functions in the reaction to challenge. He hypothesized two reciprocally balanced centers; one integrating positive functions such as alerting, excitement, increased skeletal muscle tone and release of catabolic hormonal products, which he termed ergotropic and the other, integrating functions of withdrawal and conservation of energy such as

TABLE I
PSYCHOPHYSIOLOGIC DISORDERS

Type	Examples
Psychophysiologic skin disorder	neurodermatosis, pruritis, atopic dermatitis, hyperhidrosis
Psychophysiologic musculo-skeletal disorder	back ache, myositis, tension headache
Psychophysiologic respiratory disorder	bronchial asthma, hyperventilation, sighing, hiccoughs
Psychophysiologic cardiovascular disorder	paroxysmal tachycardia, migraine, hypertension
Psychophysiologic hemic and lymphatic disorder	reduced clotting time
Psychophysiologic gastrointestinal disorder	peptic ulcer, chronic gastritis, pylorospasm, mucus colitis
Psychophysiologic genito-urinary disorder	dysmenorrhea, dyspareunia, impotence, pseudocyesis
Psychophysiologic endocrine disorder	certain cases of hyperthyroidism
Psychophysiologic disorder of organ of special sense	certain cases of conjunctivitis
Psychophysiologic disorder of other type	

Adapted and modified from DSM II

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decreased skeletal muscle tone, raising the barrier to perceptual input and release of anabolic hormones, which he termed trophotropic.⁶ The anatomical basis for these systems has been described by Gellhorn, together with their physiological interconnections and neurochemical transmitters.⁷ By the 1930's the relationship between these physiologic processes and certain psychologic states in the production of physical disease was becoming increasingly well established due to the accomplishments of such pioneer investigators as Franz Alexander and Flanders Dunbar.³

Incidence

The incidence of psychophysiological disorders is quite extensive. At the University of Arkansas Medical Center they account for 23% of 500 plus psychiatric consultations annually and this is by no means all of them. Coleman gives a better picture of the magnitude of this category of disease in a statement that over 15 million Americans suffer from only two of the dozens of specific types, migraine and peptic ulcer disease.⁸ Even this is small when we consider Solomon's formulation of emotional factors altering the immune balance between pathogenic events and defense mechanisms converting latent or mild illnesses such as allergy, bacterial disease, viral disease, cancer and autoimmune disease to manifest or severe illness. In the purest sense of the word these become psychophysiological diseases. It is then not difficult to agree with Lipowski in his statement: "There is growing evidence that psychological and social variables are a class of etiological factors in all diseases."⁹

Pathogenesis

Psychophysiological disorders develop according to a logical series of neural and biochemical processes. First the individual falls into a situation, usually unpleasant but can be extremely pleasant, which imposes demands, referred to as stress. He perceives the related stimuli, evaluates the composite picture, comes to the conclusion, associated with variable subjective feelings, that certain action is indicated. Then through unconscious processes involving the limbic system, reticular formation, hypothalamus and autonomic nervous system, the body mobilizes to facilitate the action. Ordinarily the demand can be met through conscious activity or psychological adjustment mechanisms but unfortunately there are times when the situation is unyielding or when

the stress derives from rigid internal attitudes. In such cases the state of stress becomes chronic and the physical mobilization continues. The prolonged deviation from normal balance yields at first functional physical symptoms and later, if not resolved, actual structural disturbances. The organ presenting the most definite disorder, having been overcome due to hereditary weakness or recent damage, is referred to as the target organ. Some personalities seem particularly susceptible; for instance the compulsive person is traditionally accepted as a migraine candidate. The doctrine of specificity—that certain psychopathological events give rise to specific pathologic states—as advocated by Alexander and Dunbar enters into discussions frequently and is the basis for occasional interesting research; however, there are many exceptions and variations. Rigid adherence can lead to unfortunate disputes with other branches of medicine.

Therapy

The general approach to therapy of psychophysiological disorders is that it be double-barreled giving simultaneous attention to the physical disturbance and the psychological one. Beyond that the options are as varied as there are possibilities for disorder in each category. It thus behooves the psychiatrist to remain abreast of current practices in general medicine as well as all other practitioners of the essential features of psychiatry. The question is frequently asked in discussions on this subject: "What are some procedures for dealing with the psychological factors?" The answer is: "Obtain a holistic understanding of the patient including physical, psychological and social or environmental assets and liabilities; then while employing indicated measures for restoration of physical adjustment, devise whatever means are possible to relieve the emotional distress through supporting the patient in remedying any untoward situation (material or psychological), strengthening the application of existing personality assets, assisting in development of new, more effective coping mechanisms and relieving overwhelming emotional agony through pharmacological means or desensitization." It is obvious that the specific approach will vary from patient to patient and require more or less expertise not characteristically a part of the armamentarium of the standard physician. Here the services of paramedical personnel such as nurses, social workers, counselors, psychologists and clergymen

are of much value; however, the physician should remain actively in the group and coordinate the efforts of the others.

DSM III

With the eventual adoption of Diagnostic and Statistical Manual III we have the prospect of a more realistic delineation of psychophysiologic disorders. No longer will the category be limited to the disorders traditionally regarded as psychophysiologic; rather it will be possible to indicate in psychiatric nomenclature the importance of psychological factors in physical disorders in general. Hopefully this will eliminate any stigma attached to the diagnosis of psychophysiologic disorder as well as any tendency to conceive of Psychiatry as attempting to consider these organic diseases as merely psychological by other medical personnel. Under the new terminology a five-digit code number in the category: Psychosomatic Factors in Physical Conditions will be employed, with the first three digits 316, corresponding to the International Classification of Disease, ninth edition, category that is equivalent to the DSM II concept of psychophysiologic disorder. The fourth digit will indicate the psychological component to be either probable, prominent or of unknown degree, represented by the numbers 1, 2, or 9 respectively. Then the fifth digit will be used to indicate whether the psychological factors were important in the initiation, exacerbation or prolongation of the disorder or whether an unknown temporal relationship existed between the psychological and the physical malfunctioning. The intent is to provide a label to focus attention on clinically important information while not giving rise to a false impression that a discrimina-

tion is being made relative to a given condition that it be either psychological or organic.

Conclusions

Psychophysiologic disorders are actual physical disturbances in which psychosocial factors are involved by way of certain brain centers, particularly the hypothalamus. The anatomy and physiology of the involved connections between the psychic state and target organs are being demonstrated quite impressively. Recent developments, especially in immune mechanisms, tend to implicate a vastly expanded group of diseases.

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The Lipid in Biphasic Fatty Liver of the Newborn

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and William A. Rowan, B.A.*

Asymmetry of the liver can be appreciated macroscopically in approximately one-third of autopsied stillborns or neonates.¹ Lipid accumulation in the right lobe accounts for this asymmetry in some cases.^{1,2}

The purpose of this paper is three fold: 1) to report a case of biphasic fatty liver in the newborn; 2) to characterize the lipid in the liver using histochemical, chemical and chromatographic techniques; 3) to suggest that excessive mobilization of fatty acids from abdominal fetal adipose tissue is responsible for the accumulation of lipid in the right lobe and the asymmetrical appearance of the liver in such cases.

CASE REPORT

CLINICAL FINDINGS—This newborn Eurasian female was delivered at term to a 26-year-old gravida 1, para 1 mother. She was delivered by Caesarean section because of cephalopelvic disproportion and had a reported birth weight of 10 lbs. 3 oz. The placenta with a 50 cm segment of umbilical cord was submitted to surgical pathology in formalin and weighed 872 gm.

At the time of delivery, this baby was noted to be large, rigid, and edematous with generalized anasarca. She breathed spontaneously only at infrequent intervals and her breath sounds were bronchial. Her skin was cyanotic and her pupils were dilated and fixed. An endotracheal tube was inserted and respirations were mechanically maintained for approximately 2 hours at which time no heart sounds could be detected.

PATHOLOGIC FINDINGS—At autopsy, the patient measured 50.8 cm from crown to heel, and weighed 4,725 gm (normal weight for length 2,750 to 3,250 gm). Pitting edema of the skin could be demonstrated and edema fluid readily exuded from the cut surface of the subcutaneous tissues in some regions. A bilateral hydrothorax and ascites were present. The liver was small weighing 80 gm (normal mean for body length 140 gm), and there was an irregular line of demarcation essen-

tially separating it into right and left lobes. The right lobe was fatty in appearance in contrast to the left which had a more nearly normal appearance. The spleen and thymus were small weighing 2 and 6 gm respectively (normal means for body length 9.7 and 9.9 respectively). A serous atrophy appearance to the adipose tissue in perithymic and retroperitoneal sites was appreciated. The brain was small weighing 364 gm (normal mean for body length 391 gm); nevertheless there was a suggestion of narrowing of sulci and flattening of gyri and hemorrhages were present in the pons. It should be noted that no congenital malformations were appreciated.

Microscopically, changes consistent with anasarca were present in sections of skin and subcutaneous tissue. The biphasic liver seen grossly was clearly defined microscopically (Fig. 1). The hepatocytes from the right lobe in hematoxylin eosin stained sections showed large vacuolar changes with nuclear displacement, and those in the left lobe showed only small vacuolar changes, if any. Oil red O (ORO) and 1% osmium tetroxide staining of formalin-fixed, frozen sections of liver also demonstrated the biphasic nature of the liver and indicated that the large vacuolar change in the hepatocytes of the right lobe was for the most part secondary to lipid inclusions. ORO staining of formalin-fixed frozen sections of lung, heart, kidney, skeletal muscle, and brain demonstrated small droplet lipid accumulations in

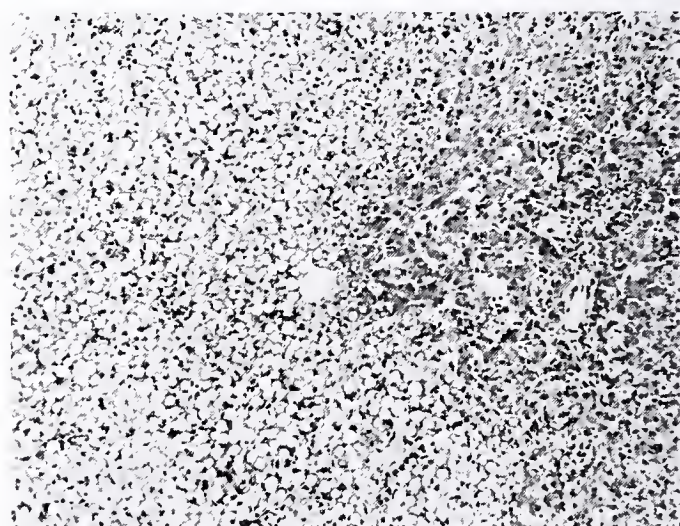


Figure 1.

Apparent juncture of right and left lobes of the liver. Extensive large vacuolar change in hepatocytes of right lobe and absence of such in those of left lobe reveal the biphasic nature of the liver (hematoxylin-eosin, X 90; AFIP neg. 75-1865.)

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alveolar lining cells, ventricular cardiac myofibers, renal tubular epithelium, skeletal muscle myofibers, and either in glial cells, or pericytes, or perivascular macrophages, in the brain. Equally as important was the conspicuous absence of lipid droplets in the neurons of the brain.

Additional histochemical studies were carried out on formalin-fixed, frozen sections of liver in an attempt to further characterize and to determine the relative concentrations of the lipid inclusions in the hepatocytes of the right versus the left lobe. The amount of stainable lipid in each section was graded on an arbitrary scale ranging from 0 to 4+. The results of these studies which are summarized in Table 1 indicate that the major portion of the lipid inclusions in the hepatocytes of the right lobe is probably neutral lipid, possibly triglyceride.

Chemical and chromatographic analysis of formalin-fixed portions of the right and left lobe of the liver were carried out to further characterize and to determine the relative concentrations of the lipids in each. Portions of formalin-fixed tissue from each lobe were homogenized in 20 volumes (weight/volume) of redistilled chloro-

form/methanol (C/M) in a ratio of 2:1 and extracted overnight at 0-5°C. The extracts were washed and separated into methanol/aqueous phases. The methanol phase was dried and dissolved in chloroform.

Silicic acid chromatography was used to separate the "neutral lipids" (which includes the free fatty acids in this method) from the polar lipids. Free fatty acids were separated out from the "neutral" lipid fraction by thin layer chromatography. All fractions were analyzed according to established procedures.^{3,6} The results are shown in Table 2. Figure 2 shows a thin layer chromatogram of the "neutral" lipid extracted from equal wet weights of tissue from the right and left lobes.

DISCUSSION

Asymmetry of the liver in the newborn and specifically of the type showing greater fatty accumulation and/or vacuolization of the hepatocytes of the right lobe has been ascribed to prolonged intrauterine disease or anoxia.^{1,2} One author suggested that the absence of such marked change in the left half is because of protective action of the arterial-type blood in the umbilical

TABLE 1 — HISTOCHEMICAL* CHARACTERISTICS OF HEPATIC LIPID IN A CASE OF BIPHASIC FATTY LIVER OF THE NEWBORN

Stain or Method**	Right Lobe	Left Lobe
Oil red O (lipids)	4+	1+
1% Osmium tetroxide (lipids)	4+	1+
Periodic acid-Schiff's (glycolipids)	0	0
Baker's method (phospholipids)	***	***
Schultz's method (cholesterol)	0	0

*Range of intensity of positivity reckoned on scale from 0 to 4+.

**All procedures done on formalin-fixed, frozen sections.

***Intermittent linear staining at periphery and occasionally scattered within the individual lipid inclusions.

TABLE 2 — CHEMICAL ANALYSIS OF HEPATIC LIPID IN A CASE OF BIPHASIC FATTY LIVER OF THE NEWBORN

	Right Lobe	Left Lobe
Wet Weight of Tissue*	1.515 gm	1.836 gm
Weight of Chloroform/Methanol (C/M)	339 mgm	45 mgm
Extractable Residue		
C/M Extractable Residue/gm Wet Tissue	224 mgm/gm	24.5 mgm/gm
Ester	6,300 μ moles/gm**	330 μ moles/gm**
Cholesterol + Cholesterol Ester	19 μ moles/gm**	5 μ moles/gm**
Phospholipids PO ₄	44 μ moles/gm**	14 μ moles/gm**
Free Fatty Acids	46 μ moles/gm**	20 μ moles/gm**

*Wet weight of tissue = Wet weight of liver tissue previously fixed and submitted in 10% buffered neutral formalin.

**Refers to number of μ moles per gram of wet tissue.

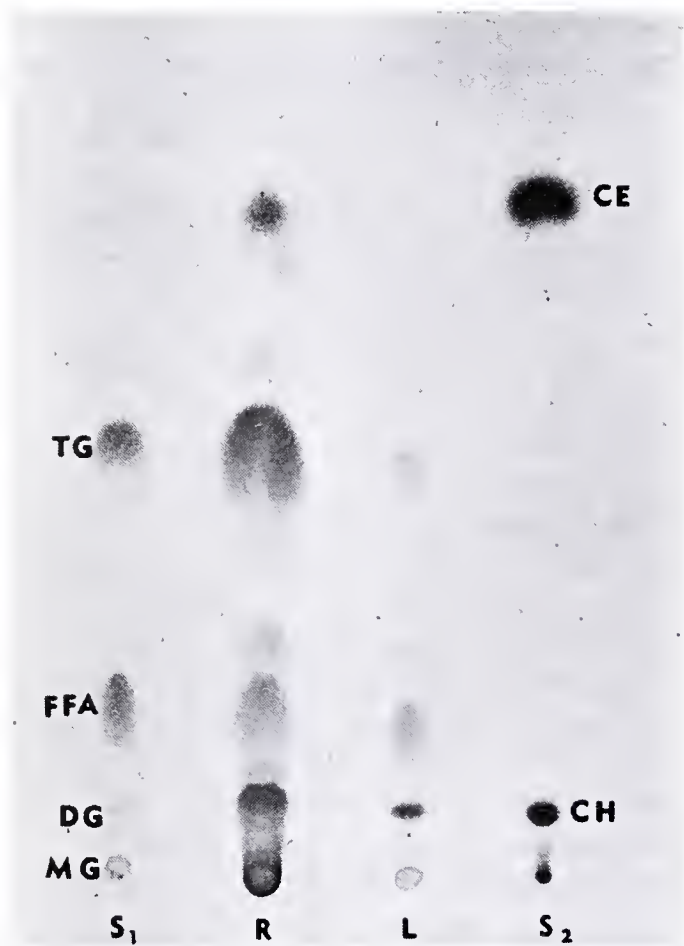


Figure 2.

Thin layer chromatogram of "neutral" fraction from equal wet weights of formalin-fixed portions of right (R) and left (L) lobes of the liver developed in petroleum ether-diethyl ether: acetic acid in a ratio of 80: 20:1 charred after sulfuric acid spray. S_1 and S_2 are the standards and include: MG = monoglycerides, DG = diglyceride, FFA = free fatty acids, TG = triglyceride, CH = cholesterol, and CE = cholesterol ester.

vein which perfuses this portion of the fetal liver.

Although the intrauterine circumstances or factors that may have been responsible for activating lipolysis are not known, we believe that an excessive and protracted free fatty acidemia as a result of mobilization from fetal adipose tissue can be implicated in the pathogenesis of the asymmetric liver in this case. Evidence of excessive lipolysis with mobilization of free fatty acids from fetal adipose tissue in this patient consists of the following: 1) the serous atrophy appearance of the fetal adipose tissue as visualized grossly; 2) the apparent decrease in the numbers

of lipid-laden adipocytes in abdominal stores; 3) the presence of oil red O-positive lipid droplets in the parenchymal cells of organs that either re-esterify or excrete free fatty acids and their absence from the neurons of the brain which are reported to be less capable of metabolizing free fatty acids than other cells;⁷ and 4) the presence of a relative but marked increase in the amount of triglyceride, a re-esterification product of fatty acids, and to a lesser extent free fatty acids in the right lobe of the liver over the left. The relevance of this latter finding is readily appreciated when one considers the hemodynamic circumstances of the fetal liver *in utero* in that the right lobe is perfused by portal venous blood and the left lobe by arterial-type blood in the umbilical vein.^{2,8} Consequently, the lipid content of the right lobe should more nearly reflect the character and amount of the lipids presented to the hepatocytes by the blood coming from abdominal adipose tissue and that in the left lobe should more nearly reflect the lipid content of maternal circulation. Marked differences in same could also result in a biphasic liver as seen in this case.

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Office Orthopaedics

"Seven — Ski — Ex."

R. Barry Sorrells, M.D.*

These last few years have brought an increased awareness of physical fitness and sports participation to the masses of the people. Many who have previously been content to spectate have started to participate. Yesterday's "watchers" are today's "doers". Sports previously obscure are now commonplace. Certainly baseball, football, basketball, tennis, bowling, and swimming remain popular—however more people are entering into the activity. The newcomers, such as marathon running, rugby, and racquetball, are becoming more popular nationwide. In the South a previously geographically sectionalized sport—skiing—has been discovered by many and is becoming a major winter sport.

Why skiing for Southerners? Certainly the increased interest in physical fitness is a factor. But also improved transportation, more leisure time, improvement of skiing facilities and equipment, and the fact that skiing is "in" have contributed to the growth of the sport. Besides, it is fun! And once discovered, almost everyone continues to go back. At first yearly, then for a longer time each year, then twice each year, then—whatever the pocketbook and time-off schedule will allow. It is contagious and addicting. No cure exists, but then virtually no one is looking for a cure for this "disease".

Whether or not the physician is a skier does not relieve him of his responsibility to the skiing patient. A large part of any medical practice involves preventive medicine. Counseling the skier is a part of preventive medicine since physical preparedness is probably more important to

a safe skiing trip than any other single factor. Certainly a physically unprepared skier with the finest instructor, ski gear, and facilities is in greater danger of injury than the properly fit skier with less than ideal conditions and equipment. Proper physical preparedness is imperative to the skier be he beginner, intermediate, expert, or competitor. It behooves us to properly counsel the skier and practice preventive sports medicine.

Before we can effectively teach, we must understand the subject. Before we lecture, we must understand the terminology. A review of some basics and their definitions might therefore be in order.

Kahnert defines physical fitness as "(1) a person's ability to perform work without undue fatigue, (2) the possession of a daily energy residual for the pursuit of wholesome leisure time activities, and (3) the capacity for meeting unforeseen emergencies effectively".⁵ Certainly skiing calls upon all three of these criteria. Let us consider each individually.

(1) The body's ability to perform physical work (skiing *is* work) efficiently and without undue fatigue is directly related to and dependent upon four factors:

CARDIO-RESPIRATORY EFFICIENCY:

The ability of the cardiovascular and pulmonary systems to meet effectively the oxygen demands of the working muscles during vigorous physical activity.¹

MUSCULAR STRENGTH: The possession of muscular strength reveals itself in the ability of an individual to overcome resistance. In quantitative terms, it is the amount of force (measured in lbs. or kgs.) the muscles can bring

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to bear against a resistance in a single, maximal effort.²

MUSCULAR ENDURANCE: The capacity of skeletal muscle (most often a localized group) to persist in the performance of a task demanding continued and rapidly succeeding contractions.

FLEXIBILITY: The ability of the body or some part thereof to bend, flex, or twist through a wide range of motions with relative ease.

It is essential that these four factors be developed if one is to perform the "work" of skiing. The degree to which each is developed is directly related to the degree of physical fitness one eventually attains. Fatigue must not develop if one is to ski safely! The tired skier is a potentially injured skier.

(2) The possession of a daily energy residual for the pursuit of wholesome leisure time activities is the second component of physical fitness. It is assumed that we possess a level of fitness to carry out our daily activities. It is the leisure time activities (such as skiing) that demand extra energy and possession of a residual. This must be developed.

(3) The capacity for meeting unforeseen emergencies effectively is the third and final requirement for physical fitness. Again a residual is necessary if one is to effectively react to an emergent, non-anticipated situation. An "emergency" seems to lurk around every turn, behind every mogul, and over every hill for most skiers. The physically fit will effectively deal with the emergency situation; the non-fit skier is in real danger.

If one is to become physically fit according to this definition he must be able to work and be prepared. A fitness program should therefore develop cardio-respiratory efficiency, muscular strength, endurance, and flexibility to a level that provides a residual to meet needs in addition to the day-to-day necessities. It is with this goal in mind that this skier's conditioning program has been designed.

Cardio-respiratory efficiency is mandatory to the sport of skiing. The demands of vigorous exertion, high altitude, and cold weather require good lungs and a strong heart. The skier should assure himself of freedom from disabling cardio-pulmonary disease prior to participation in the sport or in the physical fitness program. A physi-

cal examination with appropriate specialized testing is indicated if there is any question at all in the mind of the skier or his doctor.

A great deal of research has been carried out in the field of cardio-respiratory fitness. Several excellent reference books by Kenneth H. Cooper, M.D.^{3,4} nicely outline a program whereby one might develop and maintain cardio-respiratory efficiency. His books describe the comparative merit of many forms of exercise and establish a point system whereby one can choose a specific exercise or vary his program and still meet a pre-determined minimum level of performance (Cooper's "30 points"). This level can be accomplished by running 1 mile in less than 8 minutes, swimming 24 laps (600 yards) in less than 15 minutes, cycling 5 miles in less than 20 minutes, or stationary running for a total of 12½ minutes. Each of these activities is assigned 5 points. If done 6 times a week, 30 points is earned and an excellent training effect is realized—probably all that is needed to develop a level of cardio-respiratory efficiency necessary for the physically fit recreational skier. Dr. Cooper also equates tennis, handball, basketball, and rope skipping as well as other forms of exercise and assigns points to each so that one may earn the necessary 30 weekly points.

Development of cardio-respiratory efficiency is, therefore, step number one in the skier's physical fitness program. Using a variable exercise program aimed at earning "Cooper's 30 points" is one way—there are many others. Whatever the method selected, the goal is the same—good lungs and a strong heart.

The "Seven - Ski - Ex." program presupposes development of cardio-respiratory efficiency and is directed toward the remaining three factors necessary to perform work—muscular strength, muscular endurance, and flexibility. All three are important to the skier but the last—flexibility, is of utmost importance to prevent injury. Lacking adequate strength and endurance one can simply limit his intensity of participation and thus protect himself. He can stop when he gets tired. Flexibility, however, is another matter. As defined it is "the ability of the body or some part thereof to bend, flex, or twist through a wide range of motion with relative ease". This is a skiing fall by description. Falls cannot be voluntarily limited and therefore flexibility becomes a

necessity for all skiers if injury is to be prevented. It is primarily with development of flexibility in mind that the "Seven-Ski-Ex." program has been formulated.

The hardest part of any exercise program is not in carrying out the exercises but rather in setting aside the time to carry them out. And, since time seems to be such a valuable and miserly possession of most of us, we spend it carefully. This program should not require more than 22 minutes of your time daily for 5 or 6 days a week. The cardio-respiratory program can be carried out in 15 minutes or less. The "Seven-Ski-Ex." program consists of 7 ski conditioning exercises which can be performed in 7 minutes.

Exercise No. 1: *The Trunk Twist*. Fig. 1. The feet and knees are kept together, heels on the floor, ankles bent forward, knees bent—all in a good downhill skier position. Rotate and *stretch* the entire upper torso as far as possible to one side, then to the other. Keep the hands (pole grips) where you can see them, parallel with the shoulders in good ski form. Start with 5 each way—a total of 10, add 1 a day and arrive at a goal of 20 in 10 days. Application: loosens trunk muscles necessary for "rotation" in skiing, develops balance and good form (important ski rule—look good

even if you do not ski good!). Time required: 45 seconds.

Exercise No. 2: *The Lower Extremity (L.E.) Stretch*. Fig. 2. The feet are widely separated in



Figure 2A



Figure 1.



Figure 2B

running position, the toes straight ahead. Lean forward, bend the forward knee keeping the front heel on the floor, allow the back heel to rise and *stretch* the forward calf muscles and hip extensors; the rear hip flexors and adductors are likewise stretched. Now lean backward and straighten the forward knee while bringing the rear heel to the floor without moving the feet (use the hands on the forward knee for balance). This "second stage" should stretch the forward ankle dorsiflexors (hopefully eliminating shin splints) and hamstrings; the rear leg calf muscles will likewise be stretched. Now, pivot on the heels 180° without moving the foot position and the front foot becomes the rear and vice versa. Repeat the two stages—lean forward, then back. Start the program with 5 of these each way, add one a day and work to 10 each way—a total of 20, each with two stages. Application: great for cross country skiing, stretches the calf muscles to "get forward" in your boots, develops L.E. flexibility, allows you to be loose in a fall. Time required: about 45 seconds.

Exercise No. 3: *The Toe Touch*. Fig. 3. The feet are close together (parallel!). Keep the knees straight and bend forward to touch the finger tips to the toes. *Stretch* the hamstrings and the hip and spine extensors. Start with 20 repetitions, add 1 a day and within a month arrive at a goal of 50 toe touches. Application: makes it possible to buckle your boots, fasten your bindings, pick up your dropped glove or pole without bending the



Figure 3.

knees (you look better from behind at least). Time required: about 1 minute.

Exercise No. 4: *The Half Knee Bend*. Fig. 4. The feet are together just like you ski (or soon will). Stand erect, hands on hips. As you bend the knees keeping the heels on the floor, bring your arms forward with elbows straight. Bend till the knee flexes to 90° and go *no* farther. Stand erect and replace hands to hips. Start with 20 half knee bends and add 1 a day. Arrive at a goal of 50 in the first month. Application: this is a strengthening rather than a flexibility exercise. The quadriceps muscles on the front of the thigh are the single most important muscle group to a skier. Skiing is a leg sport. The quads allow standing and skiing with the knees bent ("keepen ze knees bent") and *must* be developed if one is to prevent fatigue and resultant injury. This exercise may be increased to 100 or more repetitions by the avid skier. Time required: about 1 minute (or 1 per second).

Exercise No. 5: *The Side Bend*. Fig. 5. The feet are widely separated, the body erect, the arms outstretched and parallel with the floor. Now lean to the side touching as far down the leg as possible and *stretch* the opposite side, trunk, and hip abductor muscles. Keep the back straight and the arms outstretched, the opposite arm pointing toward the sky; now lean and stretch to the other



Figure 4.



Figure 5.

side. Begin with 20 repetitions, 10 each way. Add 1 a day till you reach a goal of 50 side bends. Application: loosens side muscles necessary for angulation in parallel skiing, improves trunk flexibility (helpful in a fall). Time required: about 1 minute.

Exercise No. 6: *The Sit-Up*. Fig. 6. Lie supine on the floor feet separated and knees *bent*, toes hooked under a support. The hands are clasped behind the head. Now sit up while curling the spine into flexion, chin down. Touch the elbow to the opposite calf as close to the ankle as possible then return to the supine position but do *not* touch the shoulders—stop six inches short. Then repeat and touch the other calf with the opposite elbow. Start with 20 repetitions and add 1 a day till you reach a goal of 50. For additional strengthening, unhook the toes for the last 10 after you reach the goal. Application: strengthens abdominal muscles, trims the tummy and makes you look better in your stretch pants (remember the skier's rule regarding looks). Stretches back extensor muscles and lessens chances for development of low back pain. Also stretches shoulder



Figure 6.

girdle muscles necessary for the pole plant. Time required: about 1½ minutes.

Exercise No. 7: *The Push-Up*. Fig. 7. Lie prone, toes and ball of foot on floor, hands palm down placed just outside of shoulders. Push-up to the fully extended elbow position. Keep the back and legs straight. Lower body by allowing elbows to flex till chin or nose touch the floor then repeat. Start with 5 repetitions, add 1 a day until you get to 20 push-ups. Ladies sometimes prefer the modified push-up with weight on the knees rather than the toes—otherwise the same. Application: strengthens the triceps muscles (very important in poling along on flat ski terrain). Also strengthens the entire shoulder girdle and if properly done, an excellent exercise to strengthen the abdominal muscles and stretch the calf muscles. Time required: about 1 minute.

The Seven-Ski-Exercises can be accomplished in seven minutes by all. The beginner will do



Figure 7

fewer but slower repetitions and as he adds additional repetitions, he will gain speed. The exercises if done in the order listed will alternate upper and lower extremity exercises—one half of the body can rest while the other half works.

This simple program designed for the skier is obviously applicable to any general fitness program. If done faithfully at least five times a week, the result should be a body properly fit for cardio-respiratory efficiency, muscular strength, endurance, and flexibility. Hopefully fatigue and injury can be prevented and the sport fully enjoyed as it truly should be.

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Special thanks to Beth Walker, RPT who served as model for these photographs.



THINGS TO COME

ST. VINCENT'S PULMONARY CONFERENCE

St. Vincent Infirmary in Little Rock is presenting a Pulmonary Conference December 21, 1978, and January 4 and 18, 1979. The conference will be held in St. Vincent Education Wing, Room E-159 from 12:00 noon until 1:00 P.M. Consultants from the State Health Department and the University of Arkansas College of Medicine will assist in the discussion and is open to all physicians. Physicians are encouraged to present problem chest cases or chest cases of unusual interest.

VAIL POSTGRADUATE COURSES

The University of Colorado School of Medicine will present three postgraduate courses at the Mark Resort in Vail, Colorado. January 6-10, 1979 — "Pediatrics", and January 10-13, 1979 — "Lung Disease in Children". January 13-20, 1979, the University of Colorado School of Medicine will present "Clinical Judgment in Anesthesiology" at the Lion Square, Vail. For further information: Office of Postgraduate Medical Educa-

tion, University of Colorado School of Medicine, 4200 East Ninth Avenue, Denver, Colorado 80262.

CLEFT PALATE CONFERENCE

The Cleft Palate Conferences are to be held at St. Vincent Infirmary in Little Rock February 21 and April 18, 1979. These conferences were established to provide full diagnostic and therapeutic facilities for any and all problems related to congenital clefts of lip, gum, and palate, and to encourage a closer coordinated relationship between the various specialists working in this field. The fields of pedodontia, orthodontia, general dentistry, speech pathology, audiology, otolaryngology, plastic surgery, psychiatry, social services, and nursing service are represented. After discussion, an integrated program for management of each individual case is made and indicated treatment is begun.

The facilities of the Conference are available to any resident of Arkansas. Patients are admitted to the conference only upon referral of a physician, dentist, or other specialists. Physicians, dentists, and other professionals are invited to attend. Inquiries may be addressed to: Fred R. Beggs, Director, Cleft Palate Conference, State Health Building, 4815 West Markham, Little Rock, Arkansas 72201, telephone 501-661-2328; or the Office of Medical Education, St. Vincent Infirmary, Markham and University, Little Rock, Arkansas 72201, telephone 501-661-3187.



ELECTROCARDIOGRAM

OF THE MONTH

The Department of Cardiology, University of Arkansas College of Medicine

(See Answer on Page 245)

HISTORY: Mrs. W. is a 22-year-old black female who presented for evaluation of hypertension. Her hypertension had been discovered during a screening program. Except for complaints of malaise, she was not symptomatic.

She denied clay ingestion and was not fond of licorice. She had been on therapy with hydrochlorothiazide only at the time of initial evaluation. Her physical examination except for a blood pressure of 150/100 mm. Hg was normal. A chest film was also normal and her ECG is shown.

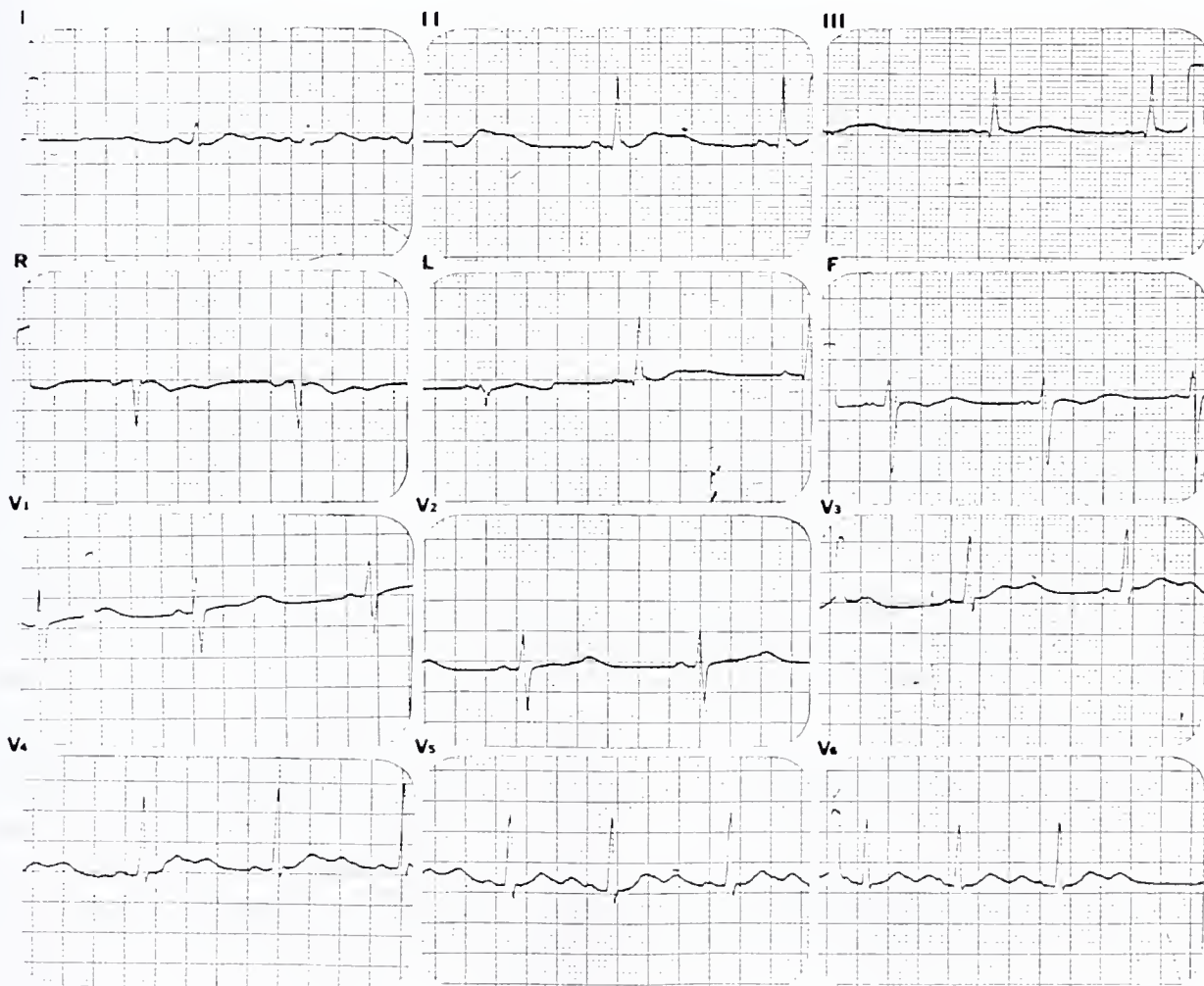
The ECG is most consistent with which one of the following choices:

- A. Left ventricular hypertrophy
- B. True posterior infarction
- C. Hypocalcemia
- D. Hypokalemia
- E. Normal

MED REC 18

Reported by

M.D.



John W. Watson, M.D.
Assistant Professor
Division of Cardiology
University of Arkansas for Medical Sciences
4301 West Markham
Little Rock, Arkansas 72201



EDITORIAL

Screening for Colorectal Cancer in Arkansas

Harry J. Jordan, Jr., M.D.,* and E. Clinton Texter, Jr., M.D.**

Colorectal cancer is now the most common visceral malignancy in the United States with over 100,000 new cases each year accounting for 50,000 deaths annually. It affects both men and women equally with incidence beginning to rise at age 40 and increasing 10% each decade until age 70. Since 90% of deaths from these cancers occur in people over 50 years of age, an easily identifiable high-risk group exists. The five year survival rate and annual death rate of colorectal cancer has remained remarkably constant over the past 25 years despite the wide availability of guaiac testing for occult blood, rigid sigmoidoscopy, barium enemas, and advances in both medical and surgical care.

When cancers are found fortuitously before symptoms develop, most are still localized to the bowel wall and five year survival exceeds 85%. Unfortunately, most colorectal cancers are not found until symptoms appear; the cancer has spread beyond the bowel wall and chance for cure is less than 40%.

Current evidence indicates that most colonic carcinomas began in benign, neoplastic polyps. However, only a small number of polyps produce symptoms or cause gross stool blood. The potential for malignancy is also directly related to the polyp size with a negligible number of polyps less than 1 cm in diameter containing malignancy.

Gilbertsen¹ screened 18,000 asymptomatic patients with annual proctosigmoidoscopy and demonstrated that by removing all polyps found the expected incidence of rectal cancer was decreased

by 80%. This method of screening, while effective, is limited because the discomfort of the procedure reduces patient compliance, only 16-18 cm of distal colon is usually examined and cost-benefit remains marginal requiring approximately \$70,000 to find a single colorectal cancer.²

Conventional barium enema examination would detect 50% to 70% of early colorectal cancers and smaller numbers of clinically significant polyps. Malmö-type air-contrast barium enema will detect the majority of large polyps but will still miss many of the smaller lesions. Colonoscopy is a highly accurate method to detect both early cancer and polyps but is more difficult and expensive to perform. Obviously, these methods do not lend themselves to mass screening.

The Hemoccult II® (SmithKline Diagnostics, Sunnydale, Ca.) is a commercially available preparation consisting of guaiac impregnated paper applied to a slide. This allows patients to prepare the stool tests in the comfort of and privacy of their own home. Generally, the patients are placed on a red meat-free, high residue diet for two to three days before the stools are collected. The meat-free diet decreases false positive tests while the high residue diet promotes bleeding from lesions, thereby, decreasing false negative results. The Hemoccult II slide provides three slides with two guaiac impregnated windows each so that two samples can be taken from different parts of three consecutive stools. The slides are then brought or mailed to the physician's office as quickly as possible for developing with guaiac reagent.

Ostrow³ has shown that the Hemoccult slide detects about 10 mg of hemoglobin per gram of stool. Assuming a normal Hgb. of 15 gm/dl and stool weight of 150 gm per day, this would detect a loss of 10 cc per day. This is about one-fourth

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as sensitive as a standard bench guaiac test but this has been shown to decrease the false positive reactions from approximately four percent with the standard bench guaiac to one percent. In patients with proven colonic carcinoma, the false negative tests were less than one percent when stools were tested for occult blood using the Hemoccult test and no meat, high-fiber diet.

Gilbertsen screened 47,000, 50 to 80-year-old, asymptomatic volunteers in a randomized fashion.⁴ 23,500 subjects were randomized to the Hemoccult protocol and 525 (2.2%) have had at least one of six slides positive. All positive reactors are evaluated with rigid proctosigmoidoscopy, conventional barium enema and colonoscopy. 475 of these 525 positive reactors have completed this examination with 43 (9.1%) found to have a colonic carcinoma and 165 (35%) at least one neoplastic polyp greater than 0.5 cm, a potentially malignant lesion. In contrast to the national average of 50% to 60% of all operated colon cancers being outside the bowel wall, over 80% of the cancers found in these asymptomatic patients were without lymph node involvement (74% Duke's A, 9% Duke's B).

Winawer, using a similar protocol, found positive reactors in 1-2% of those over 40-years-old, asymptomatic patients with a yield of 12% colon cancers and 38% neoplastic polyps on subsequent evaluation.

These studies suggest that asymptomatic patients over age 40 who are found to have positive occult blood using Hemoccult II slides and the no meat, high-residue diet have a 45% to 50% chance of having a colonic cancer or potentially malignant polyp. However, by detecting these cancers in the asymptomatic phase the chance for cure is doubled. On the basis of these pilot studies, the Arkansas Extension Homemakers Council, county councils and local clubs, with the Arkansas Division of the American Cancer Society, and the Division of Gastroenterology, Department of Medicine, University of Arkansas for Medical Sciences has undertaken a screening project for colorectal cancer in Arkansas.

Extension Homemakers Clubs are local organized groups through which Home Economics and related educational activities are conducted by the Arkansas Cooperative Extension Service. The Family + 2 project is being conducted through the Health Committee of the Arkansas Extension Homemakers Council. The Council

sponsors other projects designed to improve individual, family and community living.

The Hemoccult II guaiac test, breast self-examination and Pap smear make up the Family + 2 Program of the Arkansas Extension Homemakers Council. This program is designed to educate and motivate Extension Homemakers Club members' families plus two friends of the club member who are over 40 to participate in the occult blood test, as well as breast self-examination and Pap smear when indicated. Each participant mailing a Hemoccult II slide test to the Division of Gastroenterology will be notified by letter that his or her test was positive or negative. Should the results be positive, each person will be encouraged to see his family physician to arrange further testing including rectal examination, proctosigmoidoscopy, air-contrast barium enema, and colonoscopy.

It is hoped that screening for colorectal cancer with the Hemoccult II slide will result in earlier detection and prolonged survival in this potentially curable malignancy. The current program is designed as a one-year pilot program. If results are as encouraging and cost-effective as in other studies, it is hoped that this mass-screening of a high-risk population can be done on an annual basis.

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ANSWER—Electrocardiogram of the Month

DISCUSSION: The mechanism appears to be sinus arrhythmia. In some leads, the QT interval is prolonged. Much of the apparent prolongation is secondary to large U-waves that almost "override" the T-wave. The U-waves are prominent in Leads I, II, and V3-V6 and are inverted in AVR. The trace suggests hypokalemia and this patient's serum potassium was 1.9 meq per liter.

MEDICINE IN THE



THE MONTH IN WASHINGTON

Most of the 95th Congress' major health legislation is still bottled up in the adjournment traffic jam. Waiting in line for final action are bills concerned with hospital cost containment, disease prevention, Health, Education and Welfare Department appropriations, overhaul of drug laws, clinical laboratories, extension of the Health Maintenance Program (HMO), the new child health medicare program, extension of the Health Planning Law, amendments to the Professional Standards Review Organization (PSRO) program, and amendments to the Medicare Law.

Most of the bills are expected in some shape and form to become law, but a few may lose out in the hectic stampede of members to go home and hit the hustings.

Most attention centers upon the Administration's heavyweight effort in the Senate to secure hospital cost containment legislation. Abandoned in the House and down and being counted out in the Senate, the President and HEW Secretary Joseph Califano have rallied their forces for a last attempt to secure the controversial legislation at least in the Senate before adjournment.

The Administration has been forced to support a "compromise" plan that would allow the Voluntary Effort to continue with federal controls triggered only if the private sector fails to brake cost rises. The original Administration plan was for immediate, mandatory federal "Caps."

The "trigger" control plan is slated to be offered as an amendment to an important Medicare-Medicaid hospital reimbursement measure approved by the Senate Finance Committee. The vote is expected to be close. Should the Administration succeed in its uphill Senate fight, the remaining hurdle of the House appears too high to clear before adjournment.

* * * *

The AMA has told Congress strict enforcement of the law should apply to the small number of physicians who prescribe psychotropic drugs solely for profit. At the same time, the lawmakers were cautioned not to take action that would restrict

the physicians' armamentarium "in order to correct the abuses of a few."

Joseph F. Boyle, M.D., a member of the AMA Board of Trustees, told the House Select Committee on Narcotics Abuse and Control that "when poor prescribing practices are a problem, we believe corrective measures can be taken through information distribution and continuing medical education." Dr. Boyle said "it cannot be emphasized enough that statistics regarding the amount of a drug prescribed or the number of prescriptions written cannot be used to document so-called misprescribing of drugs in medical practice."

There is no data, for instance, on how many people suffer from severe anxiety symptoms, Dr. Boyle noted. Increased access to care through federal medical programs, community treatment of mental illness, greater awareness of the need to seek medical help for mental conditions—all could play a role in higher than expected use of psychotropic drugs, he said.

It is undeniable that there are certain problems in the prescribing of certain psychotropic drugs, Dr. Boyle testified. "These problems include any blatant misuse of the trust granted to physicians by a small group of physicians who prescribe these drugs solely for profit. When it can be established that a physician or other prescriber is prescribing or dispensing drugs for non-medical uses, appropriate actions should be taken to halt such activity. We support strict enforcement of the law."

The AMA has developed model state legislation providing for disciplinary actions against physicians found guilty of specified infractions, including "unprofessional conduct." Most state Medical Practice Acts include within the definition of unprofessional conduct the prescribing and/or administering of certain types of drugs in a non-therapeutic or unprofessional manner, Dr. Boyle noted.

He said the AMA "supports efforts designed to eliminate improper prescribing, and we believe the principal means for achieving such a result is to provide unbiased, valid and current information to physicians on the risks and benefits of

particular drugs in various treatment situations". However, "we caution against any federal action that could, in effect, reduce the availability of patient treatment by restricting the physician's armamentarium to treat illness and injury in order to correct the abuses of a few."

The second AMA witness was Daniel N. Freedman, M.D., Chairman and Professor of Psychiatry at the University of Chicago and Chief Editor of the Archives of General Psychiatry of the AMA.

Dr. Freedman said that "although the benzodiazepines do have a potential for abuse and dependence differing from that of antipsychotic and antidepressant drugs, their relative safety in terms of therapeutic doses and toxic effects provides an advantage over the barbiturates."

The number of prescriptions for all benzodiazepines has plateaued while prescriptions for barbiturates and related drugs have decreased, he noted. The benzodiazepines have actions other than anti-insomnia and anti-anxiety, which accounts for their use in selective amnesia and intravenous anesthesia, spasticity, local skeletal muscle spasm, certain dyskinesias, and treatment of seizures, the witness said.

"Moreover, a substantial percentage of the prescriptions for benzodiazepines are not for a primary complaint of anxiety or insomnia but for these conditions in conjunction with episodes of other illnesses."

"The wider use of these drugs by women is a transnational trend and may in part be explained by their greater utilization of the health care system and their willingness to seek help sooner than men for all primary care problems," said Dr. Freedman, "although their changing role in society which likely heightens anxiety may also be a contributing factor."

* * * *

The first top-level health official of the Carter Administration to topple is Robert Derzon, ousted as head of the stripling Health Care Financing Administration (HCFA), the new agency that operates Medicare and Medicaid.

Derzon fell out with HEW Secretary Califano in disputes over policy and over organizational matters. Derzon wasn't moving fast enough to whip HCFA into shape, Califano believed. Derzon, 47, a hospital administrator, took issue with the belligerent attitude of Califano toward health providers.

Califano has been under pressure from Congress

to get HCFA moving. The Agency was originally the idea of the Senate Finance Committee and was embodied in proposed legislation. Califano preempted the plan and made the sweeping organizational shift 18 months ago. Medicare had been under Social Security; Medicaid under HEW's Welfare Division.

Derzon was a soft-spoken official who never quarreled with his boss in public. He had been Administrator of the University of California-San Francisco Hospitals and Clinics. Named to succeed him was Leonard D. Schaeffer, currently Assistant HEW Secretary for Management and Budget. Schaeffer, 33, was Director of the Bureau of the Budget of the State of Illinois for 18 months, beginning in 1975, and Deputy Director for Management of the Illinois Department of Mental Health and Developmental Disabilities for the two preceding years. Before joining HEW nine months ago, he had served as a Vice President for Financial and Business Planning at Citibank in New York.

* * * *

Twenty-seven Blue Cross and Blue Shield plans will reimburse for second opinions on the need for elective surgery recommended by physicians. "Many more plans" are expected to be involved in second opinion surgery programs in the near future, Blue Cross-Blue Shield reported.

Under the program, all charges related to the second opinion, including the consulting specialist's fees, x-rays and laboratory tests, are covered by the plans. If the second opinion differs from the first, some plans pay for a third opinion to help the subscriber decide whether or not to have surgery.

Walter J. McNerney, President of the Blue Cross and Blue Shield Associations, said a major purpose of the pre-surgical consultation programs is to determine the extent to which an additional independent opinion results in significant savings or in improvement of patient care by reducing the incidence of elective surgery.

The Blues released the statement on second opinions to coincide with the scheduled official launching of HEW's second opinion program for Medicare and Medicaid. The Government plans an extensive publicity campaign to encourage the public to seek second opinions when suitable.

In comment upon the HEW program James H. Sammons, M.D., AMA Executive Vice President, commented: "The concept of second opinions is

not new to the medical profession. The AMA has for years supported voluntary consultation. The Association's Principles of Medical Ethics specifically state that, 'A physician should seek consultation upon request; in doubtful or difficult cases; or whenever it appears that the quality of medical service may be enhanced thereby.'

"The Department of HEW claims that its national second opinion program will be cost reducing. However, such a program promises to increase utilization of physician services as Medicare and Medicaid patients across the country are urged to seek a second opinion before all non-emergency surgery. Short-term results of several experimental second opinion programs have not provided clear evidence that a national program of this type will either improve the quality of care or reduce health costs."

* * * *

New financial disclosure rules have been proposed for providers under Medicaid, Medicare and the Maternal and Child Health Program.

The rules require private institutions, organizations, and agencies providing health-related services to beneficiaries of these programs to disclose ownership and other business-related information.

"These rules would give us an important new tool with which to ferret out evidence of fraud and abuse in those important programs and prosecute offenders," HEW Secretary Califano said.

"They will help us identify situations in which self-dealing, interlocking directorates, or other arrangements allow providers to make excessive profits. In addition, the existence of this requirement will serve as a deterrent to those who would use obscure business arrangements to defraud the taxpayers," he said.

Three major new requirements were proposed. Any organization providing services must disclose to HEW the identity of persons with certain ownership or control interests in the organization, or in a subcontractor. These organizations, except for those which deal exclusively with the Maternal and Child Health Program, must also disclose information on certain business transactions.

* * * *

A new disease classification system for use in hospitals and related clinical settings has been endorsed by HEW. Starting next year, the system will be required in HEW-financed programs such

as Medicare, the Professional Standards Review Organization program and the Cooperative Health Statistics System.

The new system, called the International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM), will be used to coordinate statistics on health problems and health care in hospitals and similar institutional environments. The statistical reports and analyses produced will be used for many purposes including quality assurance, health planning and research.

ICD-9-CM contains over 10,000 five-digit diagnostic codes and more than 3,000 four-digit medical procedure codes. HEW said the system is compatible with the existing international classification of diseases, ninth revision, produced by the World Health Organization, "and provides a significant improvement over the classification systems now in use in the United States."

Currently, the two major disease classification systems being used throughout the nation are the ICDA-8 and HICDA-2 systems. According to HEW officials, the use of these competing classification systems has made standardization of statistics difficult to accomplish. HEW officials said the universal adoption of the ICD-9-CM as a simple system would eliminate these problems and that its use would represent a major technical advance in recording health statistics.

HEW has entered into a contract with the Commission on Professional and Hospital Activities (CPHA) to produce adjunct materials necessary for the implementation of this system.

A federal draft guide of pharmacy prescription drug prices intended for physicians has been labeled "extremely misleading" by the Pharmaceutical Manufacturers Association (PMA).

"Truly relevant data could be a useful adjunct to existing information sources, but we do not believe that this particular model meets this standard," PMA President C. Joseph Stetler said in a letter to the HEW Department.

The PMA said the price book could cause confusion "as pharmacists undertake to make prescribers and consumers understand why their prescriptions do not cost what this book seems to say they should".

HEW used pharmacy acquisition cost data as a base "even though average retail treatment cost information would be less misleading and is readily available," said Stetler.

"Those data . . . exaggerate the differentials to be found in the actual prescription market, whether between the average prices and treatment of different drugs or of different versions of the same drug", he said. And—"manufacturers often provide pharmacists with labor reducing unit-of-use packaging, special purchasing discounts, and services such as a return goods policy allowing inventory reductions and comprehensive product liability coverage—all of which reduce costs."

PMA compared examples of price ratios from the HEW Guide to Average Retail Price Ratios for Typical Prescriptions which it said "clearly showed that the book's price differences were exaggerated."

* * * *

The Food and Drug Administration will require that most drugs be labeled to specify the date after which they should not be used.

FDA Commissioner Donald Kennedy said the expiration dating requirement—which will cover all prescription drugs and most non-prescription drugs—should "provide a new protection for consumers, who will have further assurances that the drugs they purchase retain their quality."

Under the old rules, expiration dates were required only for drugs which were "liable to deterioration" such as antibiotics.

* * * *

New drugs and medical devices developed with federal aid are "wasting away on the shelves of bureaucrats" due to government patent policies, a group of Senators have charged.

Sens. Robert Dole (R-Kans.) and Birch Bayh (D-Ind.) have introduced legislation to encourage the government to allow universities, non-profit organizations and small businesses limited patent protection to market discoveries they have made under federal auspices. The patent holder would reimburse the government out of royalties and income for federal research expenditures.

Joining Dole and Bayh were Sens. Charles Mathias (R-Md.), Dennis Deconcini (D-Ariz.), and Orrin Hatch (R-Utah).

Dole said that "the present government policy mandates the government take title to all inventions it has had a hand in funding. The policy discourages participation by the private sector, with the end result being that the innovation will never be brought to the marketplace for use by the public."

* * * *

ACP POSTGRADUATE COURSES

Course No. 830

RECENT ADVANCES IN GASTROENTEROLOGY

January 11-13, 1979

Registration Deadline is December 28, 1978

MEETING PLACE

University of Arkansas for Medical Sciences
Auditorium — Education I Building
4301 W. Markham
Little Rock, AR 72201

DIRECTOR

E. Clinton Texter, Jr., M.D., F.A.C.P.

Minimum/Maximum Registration: 100/300

FEES: ACP Members, F.A.C.P., Residents and Research Fellows, \$180.00; Nonmembers, \$240.00; ACP Associates, \$90.00. *Please submit tuition fee in U. S. Funds.*

SUMMARY OF COURSE

Selected topics of interest to the primary care physician, the general internist and the internist with a sub-specialty interest in Gastroenterology will be presented. Areas to be covered include: The approach to the jaundiced patient; the current and future medical and surgical treatment of acid-peptic disease; degenerative gastrointestinal disease; infections; hyperalimentation; Whipple's disease; colon polyps and cancer; vascular lesions of the colon; immunization for hepatitis; alcoholic and toxic liver disease. The format will include lectures, symposia, panel discussions and an opportunity for informal discussion.

In consideration of others, it is requested that there be no smoking in the meeting rooms.

HOTEL ACCOMMODATIONS

The Little Rock Hilton Inn, 925 S. University, I-630 at University, Little Rock, AR 72204. Telephone (501) 664-5020. Singles, \$30.00; Doubles, \$38.00. Shuttle bus service will be provided between the Little Rock Hilton Inn and the University of Arkansas for Medical Sciences.

Please identify yourself with this course when making reservations in order to benefit from the block of rooms being held.

ACCREDITATION

As an organization accredited for continuing medical education, the American College of Physicians certifies that this continuing medical education activity meets the criteria for 21¼ credit hours in Category I of the Physician's Recognition Award of the American Medical Association.

GUEST FACULTY

HAROLD O. CONN, M.D., Professor of Medicine, Yale University School of Medicine; Chief, Liver Disease Unit, V.A. Hospital, West Haven, CT

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E. CLINTON TEXTER, JR., M.D., F.A.C.P., Professor of Medicine, Physiology; Director, Division of Gastroenterology

OUTLINE OF COURSE

THURSDAY, JANUARY 11, 1979

A.M. SESSION

8:00 Registration

8:30 Opening Remarks

Drs. Bruce, Bates and Texter

DIAGNOSIS OF JAUNDICE

9:00 Pancreatitis and Obstructive Jaundice
Dr. Spiro

9:40 CT Scan and Ultrasound in the Diagnosis of Jaundice
Dr. Ferris

10:15 A Clinician's Approach to Suspected Obstructive Jaundice
Dr. Gordon

10:35 Methychloroform (Airplane Dope) Multi-System Toxicity
Dr. Texter

11:00 Break for Discussion

11:30 Panel Discussion and Cases

Panelists: Drs. Spiro, Ferris, Gordon and Texter

12:15 Lunch

P.M. SESSION

ACID PEPTIC DISEASE

1:30 Role of Cimetidine, Antacids and New Agents in the Treatment of Duodenal Ulcer, Gastric Ulcer, Reflux Esophagitis and Pancreatic Exocrine Deficiency
Dr. Peterson

2:15 Parietal Cell Vagotomy in the Treatment

of Acid Peptic Disease

Dr. P. Jordan

2:45 Peptic Ulcer in Children and Adolescents

Dr. Euler

3:05 Where Do We Go From Here In Therapy?

Dr. Winship

3:30 Break for Discussion

4:00 Panel Discussion and Cases

Panelists: Drs. Texter, Peterson, P. Jordan, Euler and Winship

5:00 Adjourn

6:30 Cocktail Party

Hilton Inn

FRIDAY, JANUARY 12, 1979

A.M. SESSION

THE BOWEL

8:30 Inflammatory Bowel Disease — Update

Dr. Winship

9:00 Pseudomembranous Enterocolitis

Dr. Nolan

9:30 Endoscopic Surveillance for Colon Cancer in Chronic Ulcerative Colitis

Dr. Waye

10:00 Ischemic Bowel Disease

Dr. Texter

10:30 Idiopathic Pseudo-Intestinal Obstruction

Dr. Greenway

11:00 Break for Discussion

11:30 Panel Discussion and Cases

Panelists: Drs. Winship, Nolan, Waye, Texter and Greenway

12:15 Lunch

P.M. SESSION

MISCELLANEOUS DISCUSSIONS

1:30 Atypical Motility Disorders of the Esophagus and Treatment

Dr. Shah

2:00 Whipple's Disease

Dr. Hightower

2:30 Laparoscopy

Dr. Dunn

3:00 Break for Discussion

3:30 Total Parenteral Nutrition

Dr. Fischer

4:15 Panel Discussion and Cases

Panelists: Drs. Shah, Hightower, Dunn and Fischer

5:00 Adjourn

SATURDAY, JANUARY 13, 1979

A.M. SESSION

DEGENERATIVE GASTROINTESTINAL DISEASE

8:30 Saints Triad and Other Myths

Dr. Texter

9:00 Fiber Story and Bile Acids

Dr. Bevan

9:30 Screening for Colorectal Cancer

Dr. H. Jordan

10:00 Relation of Colon Polyps to Cancer, Treatment and Follow-up

Dr. Waye

10:30 Angiodysplasia of the Cecum

Drs. Browning and Smart

11:00 Break for Discussion

11:30 Panel Discussion and Cases

Panelists: Drs. Texter, Bevan, H. Jordan, Waye, Browning and Smart

12:15 Lunch

P.M. SESSION

THE LIVER

1:30 Gamma Globulin Prophylaxis of Hepatitis—A, B, and Non-A, Non-B

Dr. Seeff

2:00 Portacaval Shunt

Dr. Conn

2:30 Alcoholic Liver Disease

Dr. Texter

3:00 Break for Discussion

3:30 Cirrhosis and Varices — Natural History

Dr. Conn

4:00 Disulfiram (Anabuse) Hepatotoxicity

Drs. Hardin and Bowles

4:15 Panel Discussion and Cases

Panelists: Drs. Seeff, Conn, Texter, Hardin and Bowles

5:00 Adjourn

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DR. ROBINS MEMORIAL

Mrs. R. B. Robins of Little Rock made a gift of chimes to the Chicago Temple, First United Methodist Church in Chicago, Illinois, in memory of her late husband who died in 1970. Dr. Robins served as president of the Arkansas Medical Society for the year 1942-1943.

DEPARTMENT HEADS NAMED

Dr. Ralph M. Wynn has been named head of the Obstetrics-Gynecology Department and Dr. Kenneth G. Goss has been named chairman of the Family and Community Medicine Department at the University of Arkansas College of Medicine. Dr. Wynn was a professor and head of the

Obstetrics and Gynecology Department at the University of Illinois and is a graduate of the New York University School of Medicine. Dr. Goss joined the faculty at the University of Arkansas College of Medicine last year and was formerly with the South Carolina College of Medicine. He is a graduate of the University of Rochester, New York.

DR. RUBIN PUBLISHED

Dr. Sanford R. Rubin of Little Rock had a scientific paper on tularemia published in the August issue of the "American Journal of Roentgenology". Dr. Rubin is associated with the University of Arkansas College of Medicine, Department of Radiology.

OPHTHALMOLOGICAL SOCIETY MEETING

A meeting of the Arkansas Ophthalmological Society was held at the Red Apple Inn in Heber Springs, September 15, 1978. The Society voted to elect each year a secretary-elect who then would become secretary-treasurer the next year, and then advance to president the following year. The members voted to form a committee to study and revise the constitution of the Ophthalmological Society. The revision will be mailed to the membership prior to the next meeting. A revised proposal should be brought to the Spring Meeting for a vote to accept or reject the revisions. Dr. Robert Calcote, Dr. Dan Gardner, Dr. R. E. Hardberger, and Dr. Tom Wallace were appointed to the committee. A resolution was passed, which will be introduced into the House of Delegates meeting of the Arkansas Medical Society, to encourage the support of more emphasis on ophthalmological training in the first years of medical school.

DISTINGUISHED GUEST LECTURE PRESENTED

Dr. Julio H. Garcia, Professor of Pathology at the University of Maryland, presented a "Distinguished Guest Lecture" on November 7, 1978, at St. Vincent Infirmary in Little Rock. Dr. Garcia's topic was "Clinical-Pathological Correlations of Brain Tumors". He is a neuropathologist and well known for his work on syndromes related to increases in intracranial pressure. The lecture was sponsored by the Office of Continuing Medical Education and the Department of Pathology at St. Vincent Infirmary.

ANTAEUS CELEBRATES ANNIVERSARY

The Antaeus Research Institute in Fayetteville recently marked its thirtieth anniversary. The Institute's primary purpose has been to encourage

biomedical research and further biomedical education. Research at the Institute is centered on embryogenesis, the field of oncology and pathology of neoplasia. Antaeus sponsors fellowship programs and conducts instructional clinics and seminars in biomedicine.

A total of \$3.2 million dollars has been invested in the program during the last thirty years. Dr. Andrew Nettleship is the founder-director of Antaeus and Dr. Mae Nettleship is co-director of the Institute. Dr. Arthur Hoge, an Oncologist formerly with the Oklahoma Cancer Research Institute at the University of Oklahoma, recently became affiliated with the Institute.

Among the projects currently underway is the study of the Hospices concept, including a study of the feasibility of such a facility in northwest Arkansas.

DR. HALL AWARD RECIPIENT

Dr. Joe Bill Hall of Fayetteville was the recipient of the Robert S. Abernathy Award for excellence in Internal Medicine. The award was presented at the annual meeting of the Arkansas Region of the American College of Physicians held recently. Dr. Hall founded the Fayetteville Diagnostic Clinic in 1959, set up the clinical laboratory at Washington Regional Medical Center in Fayetteville, and brought the first nuclear diagnostic testing facility to the State in 1957. Dr. Hall initiated the development of the practical nurse training program in his area, and was active in the development of the associate degree training program for nurses at Fayetteville. He has been active in the Family Practice Training Program conducted by the College of Medicine and was named the outstanding teacher for the Fayetteville program in 1977. Dr. Hall is on the consulting or active staff of seven hospitals in northwest Arkansas and is a clinical assistant professor of medicine at the University of Arkansas College of Medicine.

GRANT RECEIVED BY UAMSC

The University of Arkansas College of Medicine has received approval for a \$143,043 grant from the Federal Bureau of Health Manpower to train Internal Medicine residents. The program will emphasize the patient costs of tests, medication, treatment, and hospitalization. The grant will be used primarily for recruiting faculty and four residents for the training program to begin July 1979. If Federal funds remain available, the program will receive up to \$292,060 for the second

year, and \$329,328 for the third year. It is anticipated that by 1983, twelve residents will be in training.

* * * *

COUNCIL MINUTES **ARKANSAS MEDICAL SOCIETY**

The Council of the Arkansas Medical Society met at 12:00 noon on Sunday, October 8, 1978, in the Camelot Inn, Little Rock. Council members present were: Burge, Wynne, Andrews, Pearson, Shuffield, Duzan, Crow, Gray, J. Bell, Stone, P. Bell, Irwin, Jameson, Warren, Duncan, McCrary, Jouett, Jones, Henry, Williams, Kutait, Wilkins, ex-officio members Chudy, Phillips, Saltzman, Fowler and Kolb. Others present were Ken Lilly, Thomas Bruce, Purcell Smith, Edgar Easley, George Mitchell, Bob Benafield, Mrs. Mary Jo Mizell, Mr. Paul Harris, Mr. Warren, Mr. Cearley, Mr. Mitchell, Mr. LaMastus, C. C. Long, and Miss Richmond.

Chairman Burge called on Payton Kolb for the invocation.

Chairman Burge read a letter from Richard M. Kuharich requesting that the minutes of the August 6, 1978 meeting of the Council be corrected to indicate that the letter from Dr. Kuharich read to the Council at the meeting represented his personal views and was not an official communication from the Boone County Medical Society. It was directed that the minutes be corrected accordingly.

The Council transacted business as follows:

1. Dr. Long reported on the further study made by the staff regarding accidental death insurance for members of the Council which would cover all modes of transportation. He advised the Council that numerous requests to insurance companies resulted in the same response—group coverage would exclude private pilots. Wilkins moved that, in view of the inability to obtain coverage on an equitable basis, the Society give no further consideration to the matter. Upon second by Henry, the Council so voted.
2. Mr. Warren presented a draft of a legislative proposal for the Arkansas Legislature pertaining to medical malpractice. The Council discussed several provisions of the proposal and requested that Mr. Warren consider modifications in some areas. Upon motion of Williams, the Council voted to request that Mr. Warren present a revised version of the proposal to the House of Delegates for consideration in November.

3. Dr. Benafield reviewed for the Council the proposed implementation of the new Blue Shield program. It is anticipated that the new program will begin January 1, 1979. A new physician's manual has been developed incorporating the CPT-4 coding and it will be distributed to physicians in the near future. There is no participating agreement for the program; an assignment provision is incorporated in the claims form. Information on the program will be presented to the House of Delegates at the Society's winter meeting.
4. Dr. Wilkins discussed the Society policy of record regarding representation on the Board of Trustees of Arkansas Blue Cross-Blue Shield. Upon his motion, the Council voted to change its policy to allow Society representatives to the Blue Cross-Blue Shield Board of Trustees to be reelected to one six-year term, then be off one year before being eligible for reelection to the Board.
5. Upon the motion of Williams, the Council voted to authorize expenses for five individuals to attend the AMA Leadership Conference in February 1979. By motion of Wilkins, the Council voted to request that any individual elected to the Council during the last two years advise the Society office if he would be interested in attending the conference. The information will be brought back to the Council for further consideration if the listing exceeds five.
6. Chairman Burge reported that the American Medical Association had asked the Society for an evaluation of the AMA's health insurance proposal and suggestions concerning the profession's position on the issue. Dr. Purcell Smith, AMA delegate, discussed the provisions of the AMA proposal and recent deliberations of the House of Delegates. Upon motion of Andrews, the Council voted to continue support of the AMA in its proposal as it is at present.
7. Chairman Burge reported that H. W. Thomas had submitted his resignation as chairman of the Budget Committee. Upon motion of Williams, the Council voted to appoint an ad hoc nomination committee, at the discretion of the chairman, for selection of a nominee to fill the vacancy.

APPROVED: John P. Burge, M. D.
Chairman of the Council

keeping up

Category 1 Continuing Medical Education Programs Available in Arkansas

RECENT ADVANCES IN GASTROENTEROLOGY

E. Clinton Texter, M. D., Program Director. 8:30 A.M. until 5:00 P.M., JANUARY 11 through 13, 1979, in the University of Arkansas Medical Sciences Education I Auditorium, Little Rock. Twenty-one and one-fourth hours Category I credit. Course fee for American College of Physicians members, residents and research fellows is \$180.00; nonmembers \$240.00, and American College of Physicians associates \$90.00. Open to all physicians. Toll free information 1-800-482-5578.

CHESTWALL DEFORMITIES IN CHILDREN

Steve Golloday, M. D., Program Director. 6:00 P. M., JANUARY 15, 1979, at Memorial Hospital in North Little Rock. One hour Category I credit. No registration fee and is open to all physicians.

OBSTETRICS—DIABETES

Presented by Bowie-Miller County Medical Society and the University of Arkansas for Medical Sciences—Area Health Education Center Southwest. 5:00 P. M. until 9:30 P. M., JANUARY 25, 1979, at the Holiday Inn in Texarkana. Four hours Category I credit. \$7.50 course fee, and open to all physicians. Contact Area Health Education Center, Texarkana, Arkansas, telephone 501-774-7236.

CARDIOLOGY FOR THE PRACTICING PHYSICIAN

Dr. James E. Doherty—Program Director. 8:00 A.M. until 4:30 P.M. FEBRUARY 2, 1979, at the Arkansas State Hospital Auditorium, Little Rock. Six hours Category I credit, and six hours Amer-

ican Academy of Family Physicians prescribed credit. \$50.00 registration fee. Open to all physicians. Toll free information 1-800-482-5578.

ACUTE RESPIRATORY FAILURE

Dr. Charles Hiller—Program Director. Sponsored by the University of Arkansas Medical Sciences. 8:30 A.M. until 4:00 P.M., FEBRUARY 12 through 14, 1979. Specific location has not been determined at this time but will be announced at a later date. Sixteen hours Category I credit and sixteen hours prescribed American Academy of Family Physicians credit. Open to all physicians. \$75.00 course fee. Toll free information 1-800-482-5578.

PRACTICAL APPLICATIONS OF PHARMACOLOGY

Dr. Ben Saltzman, Program Director. Sponsored by the University of Arkansas For Medical Sciences. 8:00 A.M. until 5:00 P.M., FEBRUARY 17, 1979. The course location will be announced at a later date. Seven hours of Category I credit and seven hours prescribed American Academy of Family Physicians credit. Open to all physicians. \$35.00 course fee. Toll free information 1-800-482-5578.

CANCER DAY

Dr. D. H. Berry, Program Director. 8:00 A.M. until 4:00 P.M., FEBRUARY 22, 1979 at the Arkansas State Hospital Auditorium in Little Rock. Six hours Category I credit. No course fee. Open to all physicians. Toll free information 1-800-482-5578.

Recurring conference and education programs. Unless otherwise indicated, fees are for meals only and programs are for one to one and a half hours Category I credit. All physicians are invited to attend.

INTER-HOSPITAL UROLOGY GRAND ROUNDS, January 3, 1979. 5:00 P.M. St. Vincent Infirmary, Little Rock.

TUMOR CONFERENCE, January 3, 1979. 7:00 A.M. St. Michael Hospital, Texarkana.

INTER-HOSPITAL GI PROBLEMS CONFERENCE, January 8, 1979. 6:00 P.M. St. Vincent Infirmary, Little Rock.

ARKANSAS STATE HEALTH DEPARTMENT REGIONAL CHEST CONFERENCE, January 9, 23, and February 13 and 27, 1979. 12:15 P.M. St. Joseph's Mercy Medical Center, Hot Springs.

CHEST CONFERENCE, January 17, 1979. 12:30 P.M. St. Michael Hospital, Texarkana.

As organizations accredited for continuing medical education by the Liaison Committee on Continuing Medical Education, the organizations named certify that these continuing medical education activities meet the criteria for the credit hours specified in Category I of the Physician's Recognition Award of the American Medical Association.



O B I T U A R Y

DR. JUD B. MARTINDALE

Dr. Jud B. Martindale of Hope died October 17, 1978, at the age of fifty-four. Dr. Martindale was born in Prescott, January 14, 1924.

He was a graduate of Hendrix College and the University of Arkansas College of Medicine, and served his internship and residency at Charity Hospital in New Orleans, Louisiana. After serving in the United States Army Medical Corps during World War II, Dr. Martindale entered general practice in Prescott with his father, Dr. James G. Martindale. He had served in various staff positions at Hempstead County Memorial Hospital including chief of staff. He was a past president of the Hempstead County Medical Society.

Dr. Martindale had served as president of the Hope School Board for two terms and was a member of the Rotary Club and the First United Methodist Church.

He is survived by his wife, Mrs. Nell Conrad Martindale; a son, Jud Martindale, Jr., of Conway; two daughters, Mrs. Betsy Butler of Little

Rock, and Mrs. Nancy N. Tolleson of Hope; and his parents, Dr. and Mrs. James G. Martindale of Hope.

Memorials may be made to the First United Methodist Church at Hope.

DR. MARTIN C. HAWKINS, JR.

Dr. Martin C. Hawkins, Jr., died November 2, 1978, at the age of seventy-seven. Dr. Hawkins, a retired Searcy physician, was born November 16, 1900. Prior to his retirement, he had practiced general surgery and gynecology in Searcy and was the founder of Hawkins Hospital. Dr. Hawkins operated the hospital for twenty-three years and was a member of the staff of White County Memorial Hospital and Central Arkansas General Hospital.

Dr. Hawkins received his medical degree from the University of Arkansas College of Medicine in 1927. He was a volunteer teacher of gynecological surgery at the Medical School for forty-seven years and received a Distinguished Service Award from the school in 1976.

Dr. Hawkins served as the first president of the Arkansas Chapter of the American College of Surgeons. He was a member of the Trinity Episcopal Church in Searcy.

He is survived by a son, Martin C. Hawkins of Vienna, Virginia. Memorials may be made to the American Cancer Society.



P E R S O N A L A N D N E W S I T E M S

DR LAWSON PRESENTS PROGRAM

Dr. Noel Lawson presented the program "Care of the Critically Ill Patient" to the Benton County Medical Society at their first fall meeting, October 5th. Dr. Lawson is associated with the University of Arkansas College of Medicine and specializes in Anesthesiology.

NEW PHYSICIAN TO MANILA

Dr. Ernest Saunders has located his practice in Manila. Dr. Saunders is a native of Trumann and received his M.D. degree at the University of Arkansas College of Medicine.

DR. HAMMONS NAMED FELLOW

Dr. Edward P. Hammons has been named a

Fellow of the American Academy of Family Physicians. Dr. Hammons is in practice in Forrest City.

DR. PATTERSON ELECTED TO BOARD

Dr. Jack Patterson was recently reelected to a three year term to the Board of Directors of the Human Services Center of West Central Arkansas. Dr. Patterson is a diplomate of the American Academy of Family Physicians and a member of the Board of Directors of the Arkansas Academy of Family Physicians. He is in practice in Clarksville.

DR. WARD NAMED FELLOW

Dr. Daniel F. Ward of Flippin was recently named a Fellow of the American Academy of

Family Physicians during their annual meeting in San Francisco, California.

DR. BREWER LOCATES

Dr. Tom Brewer has begun the practice of Nephrology at 5326 West Markham in Little Rock.

FELLOWS IN CARDIOLOGY

Drs. Jo Etta Galbraith, Ben D. Johnson, and Audrey J. Thompson were recently admitted to Fellowship in the American College of Cardiology. The three physicians are from Little Rock.

DR. BACHMAN SPEAKS

Dr. David Bachman of Russellville spoke to the Arkansas Lung Association "Crusaders Against Smoking" workshop recently held in Little Rock. The workshop was attended by students and faculty sponsors from twenty-two school districts in Arkansas. Dr. Bachman outlined the "Smoking Game" for the non-smoking students.

DR. TEMPLETON TO WEST MEMPHIS

Dr. Terry Templeton has begun practice in West Memphis. He is specializing in Otolaryngology at the Crittenden Memorial Hospital Professional Office Building. Dr. Templeton is a graduate of the University of Tennessee Medical School in Memphis.

DR. OSBORNE CHIEF OF STAFF

Dr. Merrill Osborne of Blytheville has been chosen to serve as temporary Chief of Staff of the new Manila Community Hospital. Dr. Osborne is a native of Manila.

DR. FRANK LOCATES

Dr. Kenneth Frank has begun practice in Jasper at the Newton County Medical Center. Dr. Frank is a graduate of Howard University School of Medicine in Washington, D. C.

RECEPTION HONORS NEW PHYSICIANS

A reception was recently given in honor of the physicians who have joined the professional community of West Memphis: Dr. Sidney Arnold, Dr. William Herring, Dr. Roger Aertker, and Dr. Raymond Wolejko. All of the physicians have their offices in the Crittenden Memorial Hospital Professional Building in West Memphis.

DR. HAWKINS BECOMES FELLOW

Dr. Michael C. Hawkins of Mountain Home was admitted to Fellowship in the American Col-

lege of Surgeons during the recent meeting of the group in San Francisco, California.

NEW OFFICERS OF CANCER SOCIETY

Dr. Robert H. Janes of Fort Smith was elected president of the Arkansas Chapter of the American Cancer Society during the recent annual meeting in Little Rock. Dr. Ducote Haynes of Little Rock was elected vice president.

DR. ROY PARTICIPATES IN MEETINGS

Dr. F. Hampton Roy of Little Rock participated in the International Intraocular Implant meeting recently held in Nagoya, Japan. Following the meeting, a group of forty-seven ophthalmologists who perform intraocular implants toured the Republic of China for ten days. They visited hospitals in Canton, Peking, Shanghai, and Kwangchow. While in Peking and Shanghai they lectured on implants.

In September, Dr. Roy participated in the International Intraocular Lens Implantation and Ophthalmic Micro-Surgery meeting held in Cairo, Egypt.

DR. KHOA LOCATES IN FOREMAN

The community of Foreman has gained a new physician. Dr. Nguyen Cao Khoa, who was sponsored in his postgraduate training by the community of Foreman, began practice at the Foreman Clinic in October.

PHYSICIANS NAMED FELLOWS

Dr. James E. Young of McGehee and Dr. Charles D. Daniel of Marshall were recently named Fellows of the American Academy of Family Physicians at the Academy's annual meeting in San Francisco.

DR. BUSBY'S ARTICLE PUBLISHED

An article entitled "Injuries in Short Track Asphalt Racing" by Dr. James D. Busby of Fort Smith was published in the October issue of the *American Family Physician*. The article describes various safety equipment required in short track asphalt racing, as well as the most common types of injuries which occur and the resulting cost of medical care.

Dr. Busby is a racing enthusiast and has driven late model stock cars since 1975.

DR. MILLER DEMOCRATIC DELEGATE

Dr. Robert D. Miller of Helena served as a delegate to the Democratic party mid-term convention held in Memphis, Tennessee, December 8th through 10th. Dr. Miller recently ran un-

opposed for his third term as Justice of the Peace in Helena.

DR. HAWKINS SERVES CANCER SOCIETY

Dr. Michael Hawkins of Mountain Home is serving as physician adviser for the Arkansas Division of the American Cancer Society's education programs. Dr. Hawkins will help conduct the educational programs and will serve as speaker to various interested groups in the Mountain Home area.

DR. GLADDEN SERVES

Dr. Jean C. Gladden of Harrison will complete,

this year, six years of service as Governor-at-Large to the American College of Surgeons.

DR. EBERT RETURNS TO LITTLE ROCK

Dr. Richard V. Ebert has returned to Little Rock as senior physician in pulmonary disease at Veterans Administration Hospital. Dr. Ebert served as chairman of the Department of Medicine at the University of Arkansas College of Medicine for twelve years before accepting the chairmanship of the Department of Medicine at the University of Minnesota College of Medicine in Minneapolis in 1966.



**NEW
MEMBERS**

DR. JOHN A. BALDRIDGE

Dr. John A. Baldrige has been added to the membership of the Craighead-Poinsett County Medical Society. Dr. Baldrige is a native of Bowie, Texas, and received his pre-medical education at Hendrix College in Conway, and the University of Texas, Austin. Dr. Baldrige was graduated from the University of Arkansas College of Medicine in 1966, and completed his internship at the Jewish Hospital in St. Louis, Missouri. He served in the United States Navy from 1967 until 1969. From 1970 until 1971, he was in Internal Medicine residency training at the University of Arkansas Medical Center; and from 1971 until 1972, he was in Endocrinology residency at Duke University, Durham, North Carolina. He returned to the University of Arkansas Medical Center for additional training during 1972 and 1973. Dr. Baldrige was in private practice in Little Rock from 1974 until 1976, and has served as assistant professor of Medicine at the University of Arkansas College of Medicine and as chief of the Geri-

atric Rehabilitation Unit of the Veterans Administration Hospital in Little Rock. He is certified by the American Board of Internal Medicine and is in practice at 3100 Apache Drive in Jonesboro, where he specializes in Internal Medicine

DR. DAVID S. BARD

The Pulaski County Medical Society has accepted Dr. David S. Bard into its membership. Dr. Bard, a native of Columbus, Ohio, received his B.S. degree in 1957 from Stetson University, Deland, Florida. He was graduated from Columbia University College of Physicians and Surgeons, New York, in 1961, and served a straight surgery internship at University Hospitals in Columbus, Ohio. Dr. Bard was in general surgery residency at the University Hospitals in Columbus from 1962 until 1963, and had training in Cancer Surgery at the National Cancer Institute in Bethesda, Maryland, from 1963 until 1965. He completed three years Obstetric-Gynecology residency training at Boston Hospital for Women in 1968, and completed a year of additional training in Gynecological Oncology in 1970 at the M. D. Anderson Hospital in Houston, Texas.

Dr. Bard is certified by the American Board of Gynecology and was a Teaching Fellow at Harvard University in 1968. He taught at the University of Florida as Assistant Professor of Obstetrics-Gynecology from 1970 until 1976, and at the University of Tennessee as an Associate Professor of Obstetrics-Gynecology and Director of Gynecologic Oncology from 1976 until 1978.

Dr. Bard is associated with the University of Arkansas College of Medicine in Little Rock, specializing in Gynecologic Oncology.

NEW MEMBERS

DR. JERRY R. BIGGERSTAFF

Dr. Jerry R. Biggerstaff has been accepted into the membership of the Mississippi County Medical Society. Dr. Biggerstaff is a native of Batesville and received his pre-medical education at Kilgore College, Texas, and the University of Texas at Austin, graduating in 1971 with a bachelor of arts degree in Microbiology. His medical degree was received from Louisiana State University Medical School in New Orleans in 1975, and he served his Family Practice residency training at the University of Arkansas Medical Center. Dr. Biggerstaff has been associated with Drs. R. F. Rhodes, George D. Pollock, and S. Reggie Cullom in Family Practice since June 1978. His office is at 608 West Lee Street in Osceola.

DR. RUSSELL L. CRANFORD, II

The Jefferson County Medical Society has accepted Dr. Russell L. Cranford, II, into its membership. Dr. Cranford was born in Malvern and received his bachelor of science degree in 1972 from the University of Central Arkansas at Conway. He was graduated from the University of Arkansas College of Medicine in 1976, and was in Family Practice Residency until 1977.

Dr. Cranford was associated with the North Little Rock Memorial Hospital for six months prior to moving to Pine Bluff in July 1977. He is associated with the Jefferson County Hospital in Pine Bluff, as an Emergency Physician.

DR. WILLIAM A. DENEKE

Dr. William A. Deneke has been added to the membership of the Jefferson County Medical Society. Dr. Deneke was born in Memphis, Tennessee, and received his B.S. degree in 1969 from Memphis State University. He was graduated from the University of Arkansas College of Medicine in 1973, where he served his internship and completed two years of Internal Medicine residency. Dr. Deneke had a Cardiology Fellowship at the Medical Center from 1976 until 1978. He is board certified in Internal Medicine and has joined Cardiology Associates, 1612 West 42nd, Pine Bluff.

DR. MICHAEL H. GERDES

Dr. Michael H. Gerdes has been accepted into the membership of the Pulaski County Medical Society. Dr. Gerdes completed his pre-medical education at the University of Iowa, in Iowa City, and received his M.D. degree from the University of Iowa College of Medicine. Dr. Gerdes served

his internship at Maricopa County General Hospital, Phoenix, Arizona, and was in Orthopaedic Surgery residency training at the University of Arkansas Medical Center from 1975 until 1978.

Dr. Gerdes has served as an instructor at the University of Arkansas College of Medicine in the Department of Orthopaedics, Arkansas Children's Hospital, and at the Veterans Administration Hospital in Little Rock. Dr. Gerdes is associated with the Arkansas Children's Hospital at 804 Wolfe Street in Little Rock.

DR. JAMES A. METRAILER

The Pulaski County Medical Society has accepted Dr. James A. Metrailler as a resident member. Dr. Metrailler is a native of Little Rock and received his B.A. degree in 1972 from the University of Arkansas. He was graduated from the University of Arkansas College of Medicine in 1976. Dr. Metrailler remained at the University of Arkansas Medical Center where he completed his internship and is a resident in Internal Medicine at the present time.

DR. WILLIAM D. McKNIGHT

The Benton County Medical Society has accepted Dr. William D. McKnight into its membership. Dr. McKnight was born in Mountain Home and received his B.A. degree in 1966 from the University of Arkansas. He was graduated from the University of Arkansas College of Medicine in 1970, and completed his internship and residency training in Internal Medicine and Gastroenterology at the Little Rock Veterans Administration Hospital. Dr. McKnight served in the United States Army Reserves from 1970 until 1976. He is certified in Internal Medicine and Gastroenterology by the American Board of Internal Medicine.

Dr. McKnight was an assistant professor of medicine at the University of Arkansas College of Medicine from 1974 until 1977. He is specializing in Gastroenterology and Internal Medicine at 317 West Walnut in Rogers.

DR. JERRY PANUSKA

The Pulaski County Medical Society has accepted Dr. Jerry Panuska into its membership. Dr. Panuska is an Anesthesiology resident at the University of Arkansas Medical Center in Little Rock. He was born in Prague, Czechoslovakia, and received his B.S. degree at Henderson State University in Arkadelphia. Dr. Panuska was graduated from the University of Arkansas College of Medicine in 1976.

ARKANSAS MEDICAL SOCIETY

MEMBERSHIP ROSTER

December 1, 1978



HEADQUARTERS OFFICE:

**214 NORTH 12TH STREET
POST OFFICE BOX 1208
FORT SMITH, ARKANSAS 72902
TELEPHONE: 501 782-8218**

MEMBERSHIP ROSTER OF THE ARKANSAS MEDICAL SOCIETY 1978-79

Type of Practice	Member's Name	Address	Telephone Number
ARKANSAS COUNTY			
FP	Cross, Joseph E.	Post Office Box 472, DeWitt 72042	
FP	Daniel, N. B.	Route 1, Box 21-D, Stuttgart 72160	946-1676
FP	Guyer, G. L.	Route 1, Box 21-D, Stuttgart 72160	673-7211
FP	Hestir, John M.	Post Office Box 512, DeWitt 72042	673-7211
FP	John, Milton C., Jr.	Route 1, Box 21-D, Stuttgart 72160	946-3637
GP	Le, Minh Quang	Post Office Box 530, Des Arc 72040	673-7211
GS	Millar, Paul H.	Route 1, Box 21-D, Stuttgart 72160	256-4154
FP	Morgan, Jerry D.	Route 1, Box 21-D, Stuttgart 72160	673-7211
GP	McCracken, Elbert A.	509 South Main, Stuttgart 72160	673-7211
GP	Nguyen, Minh Van	Post Office Box 530, Des Arc 72040	673-8571
FP	Northcutt, Carl E.	Route 1, Box 21-D, Stuttgart 72160	256-4154
GP	Pritchard, Jack L.	1022 South Main, Stuttgart 72160	673-7211
FP	Rasco, C. W., Jr.	111 South Jackson, DeWitt 72042	673-2331
FP	Speer, Hoy B., Jr.	1814 North Henderson, Stuttgart 72160	946-3156
R	Speer, Marolyn N.	Route 1, Box 21-C, Stuttgart 72160	673-2586
GP	Van Duyn, Thomas S.	Post Office Box 110, Stuttgart 72160	673-3511
			673-7291
ASHLEY COUNTY			
FP	Bui, Thieu	Post Office Box 248, Wilmot 71676	
FP	Cothern, William R.	Post Office Box 577, Crossett 71635	473-2274
	Edwards, Lawrence E.	Shalimar, Florida	364-6111
	Mask, Don L.	Alexander City, Alabama	
GP	Rankin, James D., Jr.	Post Office Box 232, Hamburg 71646	853-8271
FP	Ripley, C. E.	317 North Alabama, Crossett 71635	364-5113
GP	Salb, Robert L.	113 Pine, Crossett 71635	364-2138
FP	Toon, D. L.	315 North Alabama, Crossett 71635	364-8062
BAXTER COUNTY			
GS	Abraham, K. Simon	Green Valley Drive, Mountain Home 72653	
FP	Arnold, Carl B.	Salem Clinic, Salem 72576	425-6991
GP	Beard, Arthur L.	126 West 6th, Mountain Home 72653	895-3281
PS	Beckman, James S.	Post Office Box 276, Mountain Home 72653	425-3131
EM	Black, John P.	Baxter General Hospital, Mountain Home 72653	425-5232
EM	Brian, Francis M., Jr.	Baxter General Hospital, Mountain Home 72653	425-5259
GP	Burnett, Richard L.	126 West 6th, Mountain Home 72653	425-3141
IM	Cheney, Maxwell G.	353 East 8th, Mountain Home 72653	425-3131
R	DeLany, Clarence L.	Fulton County Hospital, Salem 72576	425-3125
GP	Ducker, David E.	Post Office Box 547, Salem 72576	895-3124
FP	Dunbar, James C.	Post Office Box 410, Mountain Home 72653	895-3215
R	Fontenot, Edwin, Jr.	Route 2, Box 57-A, Mountain Home 72653 (Res.)	425-2020
GS	Ford, William H.	402 East 6th, Mountain Home 72653	425-7337
GS	Grasse, A. Meryl	Post Office Box 438, Calico Rock 72519	425-9120
GS	Guenther, John F.	126 West 6th, Mountain Home 72653	297-3726
D	Hardin, Philip R.	Bull Shoals Hospital & Clinic, Bull Shoals 72619	425-3131
GS	Hawkins, Michael L.	Post Office Box 349, Mountain Home 72653	445-4292, Ext. 35
	Hildebrand, Eugene	Tucson, Arizona	425-6988
FP	Kelley, Lawrence A.	Post Office Box 299, Bull Shoals 72619	
FP	Kerr, Robert L.	Post Office Box 706, Mountain Home 72653	445-4292
OPH	Massey, J. Y.	Post Office Drawer H, Mountain Home 72653	425-6971
FP	Moody, Michael N.	Highway 9 North, Salem 72576	425-6026
FP	Penly, Don H.	603 West Market, Horseshoe Bend 72512	895-2541
PTH	Peterson, Hubert C.	14 Medical Plaza, Mountain Home 72653	670-5147
OPH	Sneed, John W., Jr.	Post Office Drawer H, Mountain Home 72653	425-8411
R	Tullis, Joe M.	Post Office Box 373, Mountain Home 72653	425-6026
U	Webb, E. Russell	Post Office Box 870, Mountain Home 72653	425-2398
GP	Wilbur, Paul	Post Office Box 706, Mountain Home 72653	425-9373
FP	Wilson, Jack C.	353 East 8th, Mountain Home 72653	425-6971
R	Wilson, M. Carolyn	Post Office Box 373, Mountain Home 72653	425-3125
			425-2398
BENTON COUNTY			
PD	Allen, L. Barry	1114 Poplar Place, Rogers 72756	636-9234
FP	Arkins, James H.	Post Office Box 420, Bentonville 72712	273-9056
P	Ball, Eugene H.	Route 2, Box 53, Rogers 72756	636-8307
GS	Bledsoe, James H.	1223 West Walnut, Rogers 72756	636-5411
OPH	Boozman, Fay W., III	1105 West Chestnut, Rogers 72756	636-7506
D	Carter, Vernon H.	101 South 12th, Rogers 72756	636-0599
GP	Clower, John D.	Post Office Box 737, Rogers 72756	636-2711
GP	Cohagan, Donald L.	408 Northwest "I", Bentonville 72712	273-5543
RD	Compton, Neil E.	Post Office Box 209, Bentonville 72712 (Res.)	273-5123
R	Cooper, Edward M.	Concordia Medical Hospital, Bella Vista 72712	855-3736
R	Davies, Dale H.	13 Britten Circle, Bella Vista 72712 (Res.)	855-9477
PTH	Denman, David A.	Rogers Memorial Hospital, Rogers 72756	636-0200
OBG	Elkins, James P.	1116 Poplar Place, Rogers 72756	636-0300
FP	Floyd, Louis C.	5 Professional Drive, Bella Vista 72712	855-3781
FP	Garrett, John L.	Post Office Box 369, Gravette 72736	787-5221
GP	Hall, Billy V.	Post Office Box 369, Gravette 72736	787-5221
PD	Harmon, Harry M.	1114 Poplar Place, Rogers 72756	636-9234
FP	Hitt, Jerry L.	Post Office Box 737, Rogers 72756	636-2711
OPH	Hof, C. William	Post Office Box 1197, Rogers 72756	636-0238
AN	Horner, Glennon A.	601 West Walnut, Rogers 72756	636-3840
FP	Howard, Willard H., Jr.	Post Office Box 30, Bentonville 72712	273-5551
FP	Hull, Robert R.	1301 West Persimmon, Rogers 72756	636-7004
FP	Huskings, John A.	Post Office Box 737, Rogers 72756	636-2711
GP	Jennings, William E.	Post Office Box 737, Rogers 72756	636-2711
ORS	Kendrick, Carl M.	1227 West Walnut, Rogers 72756	636-9607
R	Knapp, James R.	Rogers Memorial Hospital, Rogers 72756	636-0200, Ext. 264
IM	Miles, Richard W.	Post Office Box 1000, Rogers 72756	636-6551
FP	McCollum, E. N.	Post Office Box 127, Decatur 72722	752-3233
GE	McKnight, William D.	Post Office Box 1567, Rogers 72756	636-6551
OPH	McNair, James R.	Post Office Box 1197, Rogers 72756	636-5411
GS	Pearson, Richard N.	1223 West Walnut, Rogers 72756	636-2862
RD	Pickens, James L.	Post Office Box 128, Rogers 72756 (Res.)	636-0110
OTO	Reese, Michael C.	1110 West Elm, Rogers 72756	925-1506
PH	Robbins, Robert H.	122 See Street, Rogers 72756 (Res.)	273-2497
FP	Rollow, John A.	408 Northwest "I", Bentonville 72712	855-3781
GP	Ronald, Douglas C.	5 Professional Drive, Bella Vista 72712	451-1174
GP	Russell, Homer B.	Post Office Box 27, Pea Ridge 72751	736-8900
P	Steele, Marion A.	Post Office Box 677, Gentry 72734	636-0200
R	Swaim, Terry J.	Rogers Memorial Hospital, Rogers 72756	636-9669
U	Turley, Jan Thomas	1217 West Walnut, Rogers 72756	

Type of Practice	Member's Name	Address	Telephone Number
R...	Ward, Herbert W.	Post Office Box 1796, Fayetteville 72701 (Res.)	521-6556
GP	Warren, Grier D.	Post Office Box 737, Rogers 72756	636-2711
FP	Webb, William F.	Post Office Box 368, Decatur 72722	752-3233
#	White, Harry M.	Rogers	
GP	Williamson, Robert R.	Post Office Box 369, Gravette 72736	787-5221
IM	Wilson, Stewart M.	Post Office Box 1311, Rogers 72756	636-2822
BOONE COUNTY			
GS	Bell, Thomas E.	Post Office Box 1116, Harrison 72601	741-6418
R	Bennett, Joe D.	651 North Spring, Harrison 72601	365-9667
P	Butts, Donald R.	Post Office Box 1214, Harrison 72601	741-3915
OTO	Chambers, Carlton L.	Bower at Pine, Harrison 72601	741-7684
PD	Chambers, Elizabeth S.	Bower at Pine, Harrison 72601	741-7684
FP	Daniel, Charles D.	Post Office Box E, Marshall 72650	448-3327
U	Ferguson, Noel F.	707 North Vine, Harrison 72601	741-9481
GP	Fowler, Ross E.	217 West Stephenson, Harrison 72601	741-8651
IM	Garland, William J., Jr.	Post Office Box 1077, Harrison 72601	741-3459
GS	Gladden, Jean C.	Post Office Box 1118, Harrison 72601	741-8275
GP	Haller, Harold H.	Post Office Box 403, Jasper 72641 (Res.)	446-5319
GP	Haller, Nancy T.	Post Office Box 403, Jasper 72641 (Res.)	446-5319
GS	Hoberock, Thomas R.	651 North Spring, Harrison 72601	741-9858
TS	Hudson, William A.	Newton County Medical Center, Jasper 72641	446-2203
GP	Jackson, Ulys.	118 South Pine, Harrison 72601	365-5333
GP	Kirby, Henry V.	651 North Spring, Harrison 72601	365-5022
OPH	Kuharich, Richard M.	651 North Spring, Harrison 72601	741-9492
FP	Langston, R. H.	520 North Spring, Harrison 72601	741-8286
ORS	Ledbetter, Charles A.	224 West Erie, Harrison 72601	741-8289
O8G	Mahoney, Paul L., Jr.	Post Office Box 1241, Harrison 72601	741-7334
FP	Maris, Mahlon O.	Post Office Box 759, Harrison 72601	741-8247
FP	McCoy, Orville B.	Post Office Box 578, Harrison 72601	365-3592
FP	Reese, Ronald R.	Post Office Box 759, Harrison 72601	741-8247
R	Robinson, G. Allen	Post Office Box 728, Harrison 72601	365-2763
GP	Scroggins, Sam J.	651 North Spring, Harrison 72601	741-6373
O8G	Simpson, Thomas J.	620 North Spring, Harrison 72601	741-2441
IM	Smith, Van	Post Office Box 1077, Harrison 72601	741-3459
R	Thomas, Leo D.	651 North Spring, Harrison 72601	365-9667
ORS	Vowell, Don R.	224 West Erie, Harrison 72601	741-8289
FP	Wallace, Oliver	Post Office Drawer AA, Green Forest 72638	838-5218
ORS	Williams, Ralph E.	302 Rice, Berryville 72616	423-3338
TS	Williams, Rhys A.	Post Office Box 1118, Harrison 72601	741-8275
FP	Wilson, Joe B.	520 North Spring, Harrison 72601	741-8286
BRADLEY COUNTY			
GP	Crow, Merl T.	205 East Church, Warren 71671	226-5811
GP	Marsh, James W.	302 North Main, Warren 71671	226-2112
FP	Whaley, William C., Jr.	205 East Church, Warren 71671	226-5811
FP	Wynne, George F.	113 West Cypress, Warren 71671	226-2844
CHICOT COUNTY			
GS	Burge, John H.	Lake Village Clinic, Lake Village 71653	265-5343
GS	Burge, John P.	Lake Village Clinic, Lake Village 71653	265-5343
IM	Ponrartana, Prasart	Ponrartana Clinic, Lake Village 71653	265-5374
PD	Ponrartana, Saowaree	Ponrartana Clinic, Lake Village 71653	265-5374
FP	Russell, John R.	Lake Village Clinic, Lake Village 71653	265-5343
GP	Smith, Major E.	Post Office Box 310, Dermott 71638	538-5717
GP	Talbot, Allen G.	Lake Village Clinic, Lake Village 71653	265-5343
GP	Thomas, H. W.	Post Office Box 250, Dermott 71638	538-5255
GP	Weaver, William J.	Post Office Box Q, Eudora 71640	355-4376
GP	Wilson, Thomas C.	115 East Peddicord, Dermott 71638	538-5253
CLARK COUNTY			
RD	Anderson, P. R.	Post Office Box 758, Arkadelphia 71923 (Res.)	246-4464
FP	Balay, John W.	416 Main, Arkadelphia 71923	246-2431
GS	Blackmon, James T.	1008 Pine, Arkadelphia 71923	246-6734
RD	Clark, Charles G.	1108 Huddleton, Arkadelphia 71923 (Res.)	246-4493
FP	Gary, Eli	Post Office Box 475, Arkadelphia 71923	246-2491
PH	Kennedy, Jack W.	5th and Clay, Arkadelphia 71923	246-4471
FP	Luck, Herman D.	Route 1, Box 25, Arkadelphia 71923	246-2471
FP	Mann, R. Jerry	416 Main, Arkadelphia 71923	246-2431
FP	McGrew, Gary L.	107 North 3rd, Gurdon 71743	353-2504
P	Parsons, Earl	117 North 11th, Arkadelphia 71923	246-8364
GP	Peeples, George R.	305 East Main, Gurdon 71743	353-4422
FP	Stover, Curtis E.	204 North 26th, Arkadelphia 71923	246-5866
RD	Toombs, Vernon L.	Route 2, Box 312-4, Gurdon 71743 (Res.)	353-2935
CLEBURNE COUNTY			
OPH	Baldrige, Max	Post Office Box 431, Heber Springs 72543	362-3479
RD	Barnett, James C.	Front Street, Heber Springs 72543 (Res.)	362-2786
GP	Barnett, Michael E.	Fourth and Spring, Heber Springs 72543	362-3143
FP	Cranford, Harrol L.	105 North 6th, Heber Springs 72543	362-8296
FP	Hinkle, Richard A.	Post Office Box 128, Quitman 72131	589-2600
GP	McClanahan, Donald H.	401 West Searcy, Heber Springs 72543	362-2414
GP	Poff, Joseph H.	401 West Searcy, Heber Springs 72543	362-2414
GP	Poff, Nathan L.	401 West Searcy, Heber Springs 72543	362-2414
R	Scruggs, Joe B.	Post Office Box S10, Heber Springs 72543	362-3121, Ext. 45
A	Sharp, Jack V.	Post Office Box 70, Heber Springs 72543	362-3316
GP	Smith, W. Wayne	Woodland Hills, Hardy 72542	856-3213
FP	Wells, William M.	300 East Roosevelt Road, Little Rock 72206	372-8361, Ext. 582
COLUMBIA COUNTY			
FP	Alexander, John E.	707 North Washington, Magnolia 71753	234-2288
FP	Farmer, John M.	104 East Columbia, Magnolia 71753	234-2230
FP	Griffin, Rodney L.	123 North Jackson, Magnolia 71753	234-3040
R	Hunter, Robert W., Jr.	2602 Crestview, Magnolia 71753 (Res.)	234-6117
GP	Jones, T. H.	Post Office Box 387, Waldo 71770 (Res.)	693-5634
FP	Kelley, Charles W.	1327 North Washington, Magnolia 71753	234-5544
GS	McMahan, H. Scott	Post Office Box 647, Magnolia 71753	234-3340
FP	Pullig, Thomas A.	905 North Jackson, Magnolia 71753	234-8570
GP	Ruff, John L.	104 Hospital Road, Magnolia 71753	234-2144
GS	Rushton, Joseph F.	219 North Washington, Magnolia 71753	234-1168
GP	Strange, Vance M.	Post Office Box 67, Stamps 71860	533-2438
FP	Walker, Jack T.	123 North Jackson, Magnolia 71753	234-3040
FP	Weber, Charles H.	110 West North, Magnolia 71753	234-4111
RD	Wilson, John H.	904 Lawton Circle, Magnolia 71753 (Res.)	234-1545

Type of Practice	Member's Name	Address	Telephone Number
CONWAY COUNTY			
FP	Buchanan, Thomas L.	200 South Moose, Morrilton 72110	354-4637
FP	Evans, Clifford L.	Post Office Box 677, Morrilton 72110	354-2456
GP	Hickey, Thomas H.	Post Office Box 230, Morrilton 72110	354-4624
GP	Hyatt, Benjamin C.	Post Office Box 265, Perryville 72126	889-5141
GP	Owens, Gastor B.	Post Office Box 536, Morrilton 72110	354-4505
PTH	Rozzell, Allen R.	601 South Moose, Morrilton 72110	354-3512
FP	Wells, Charles F.	601 South Moose, Morrilton 72110	354-2123
GP	White, H. B.	Post Office Box 230, Morrilton 72110	354-4623
CRAIGHEAD-POINSETT COUNTY			
D	Alston, Herman D.	816 Cobb, Jonesboro 72401	932-4570
R	Aston, J. Kenneth	Craighead Memorial Hospital, Jonesboro 72401	972-7260
IM	Baldridge, John A.	3100 Apache Drive, Jonesboro 72401	972-1710
OBG	Basinger, James W.	Post Office Box 1478, Jonesboro 72401	935-3990
OBG	Berry, Donald M.	Post Office Box 1478, Jonesboro 72401	935-3990
#	Blanton, M. E.	Jonesboro	
P	Blaylock, Jerry D.	505 East Matthews, Jonesboro 72401	935-0360
U	Bogaev, Leonard R.	812 Cobb, Jonesboro 72401	932-2926
IM	Burns, Richard G.	505 East Matthews, Jonesboro 72401	932-1198
IM	Clopton, Owen H., Jr.	505 East Matthews, Jonesboro 72401	932-1198
HEM	Cohen, Robert S.	223 East Jackson, Jonesboro 72401	972-0063
GP	Craig, Gus A.	920 Union, Jonesboro 72401	932-3022
ORS	Dickson, Glenn E.	505 East Matthews, Jonesboro 72401	932-1820
OTO	Eddington, William R.	505 East Matthews, Jonesboro 72401	935-8132
ORS	Edwards, Harvey O.	924 South Main, Jonesboro 72401	972-0110
GS	Faris, John C.	907 Union, Jonesboro 72401	935-8470
FP	Forestiere, A. J.	Post Office Box 106, Harrisburg 72432	578-5443
R	Garner, William L.	224 East Matthews, Jonesboro 72401	932-7458
OTO	Gossett, Clarence E.	505 East Matthews, Jonesboro 72401	935-8132
R	Green, W. Robert	828 Cobb, Jonesboro 72401	932-0639
IM	Guinn, Donald R.	505 East Matthews, Jonesboro 72401	932-1198
P	Guthrie, Alastair N.	2701 South Caraway Road, Jonesboro 72401	932-0692
IM	Hall, Ray H.	311 East Matthews, Jonesboro 72401	935-4150
OT	Harper, T. P.	Post Office Box C, Monette 72447	486-2131
GP	Hogue, Ernest L.	505 East Matthews, Jonesboro 72401	932-8127
R	Holland, James A.	Post Office Box 1124, Jonesboro 72401	932-7458
FP	James, Frank M.	3100 Apache Drive, Jonesboro 72401	972-5500
AN	Johnson, Larry H.	818 Cobb, Jonesboro 72401	932-4211
PD	Johnson, Roehl W.	505 East Matthews, Jonesboro 72401	935-6012
	Jones, R. J.	Whiteman AFB, Missouri	
GS	Keisker, Henry W.	505 East Matthews, Jonesboro 72401	932-4581
PD	Kemp, Charles E.	505 East Matthews, Jonesboro 72401	935-6012
GYN	Kirkley, John B.	Post Office Box 1478, Jonesboro 72401	935-3990
PTH	Kroe, Donald J.	411 East Matthews, Jonesboro 72401	932-7430
FP	Lawrence, Robert O.	417 East Matthews, Jonesboro 72401	972-0550
GP	Ledbetter, Joseph W.	904 South Church, Jonesboro 72401	935-5454
ORS	Mahon, Larry E.	810 Jeter Drive, Jonesboro 72401	935-9123
AN	Mitchell, George E.	818 Cobb, Jonesboro 72401	932-4211
FP	Modelevsky, Aaron C.	Post Office Box 1427, Jonesboro 72401	932-0980
RD	McCurry, John H.	2631 South 12th Street, St. Louis, Missouri 63118	NF
OPH	McKee, Bobby E.	505 East Matthews, Jonesboro 72401	935-6396
EM	Neff, Michael D.	224 East Matthews, Jonesboro 72401	972-4288
EM	Peeler, Malcolm O.	224 East Matthews, Jonesboro 72401	972-4100
P	Peirce, Charlotte T.	2920 McClellan Drive, Jonesboro 72401	972-4039
GP	Plunk, Hermie G.	5005 East Nettleton, Jonesboro 72401	932-1181
GP	Poole, Grover D.	Post Office Box 10, Jonesboro 72401	932-2634
P	Price, Edwin F.	Post Office Box 5033, Jonesboro 72401	972-0290
PD	Rainwater, W. T.	505 East Matthews, Jonesboro 72401	935-6012
FP	Raney, Bascom P.	403 East Matthews, Jonesboro 72401	935-5529
P	Richardson, William W.	2920 McClellan Drive, Jonesboro 72401	972-4039
FP	Robins, Robert A.	208 Cobean Boulevard, Box 8, Lake City 72437	237-4397
FP	Robinette, James M.	801 Osler Drive, Jonesboro 72401	932-2423
D	Rogers, James F.	505 East Matthews, Jonesboro 72401	935-4755
OBG	St. Clair, John T., Jr.	505 East Matthews, Jonesboro 72401	935-3990
GS	Sanders, James W.	505 East Matthews, Jonesboro 72401	932-4875
U	Scriber, Ladd J.	812 Cobb, Jonesboro 72401	932-2926
RD	Shanlever, R. C.	1103 Wilkins, Jonesboro 72401 (Res.)	932-2450
ORS	Shanlever, William T.	806 Jeter Drive, Jonesboro 72401	972-1640
FP	Smith, Floyd A., Jr.	415 West Main, Trumann 72472	483-6411
GP	Smith, Vestal B.	Post Office Box 614, Marked Tree 72365	358-2811
AN	Sparks, E. Barrett	818 Cobb, Jonesboro 72401	932-4211
PTH	Stainton, Robert M., Jr.	411 East Matthews, Jonesboro 72401	932-7430
FP	Stallings, Joe H.	417 East Matthews, Jonesboro 72401	972-0550
RD	Stroud, Paul T.	510 Melton Drive, Jonesboro 72401 (Res.)	932-3284
FP	Swingle, Charles G.	Post Office Box 267, Marked Tree 72365	358-2036
GP	Taylor, G. Wayne	211 East Matthews, Jonesboro 72401	972-1570
FP	Tedder, Michael E.	3100 Apache Drive, Jonesboro 72401	972-1810
FP	Thomas, James F.	Southgate Plaza, Jonesboro 72401	935-8510
OPH	Utley, Phillip M.	920 South Main, Jonesboro 72401	932-8221
FP	Verser, Joe	Post Office Box 106, Harrisburg 72432	578-5443
PTH	Vollman, Don B., Jr.	411 East Matthews, Jonesboro 72401	932-7430
OPH	Webb, James W.	920 South Main, Jonesboro 72401	932-8221
U	Williams, E. Walden	812 Cobb, Jonesboro 72401	932-2926
GS	Wilson, Francis M.	505 East Matthews, Jonesboro 72401	932-1987
PTH	Wilson, Joseph T., Jr.	411 East Matthews, Jonesboro 72401	932-7430
FP	Winters, W. Lee	801 Osler Drive, Jonesboro 72401	932-2436
GP	Wisdom, G. Durwood	505 East Matthews, Jonesboro 72401	932-8121
CRAWFORD COUNTY			
FP	Darden, L. R.	Post Office Box 623, Van Buren 72956	474-2336
FP	Durmon, Beuford T.	100 South 14th, Fort Smith 72901	785-2431
GP	Edds, Millard C.	1103 Chestnut, Van Buren 72956	474-2361
FP	Hopkins, Ed G.	1103 Chestnut, Van Buren 72956	474-2361
**R	Roberts, David H.	4301 West Markham, Little Rock 72201	661-5000
GP	Shearer, F. E.	Post Office Box 458, Alma 72921	474-9539
GP	Stone, Kenneth I.	Post Office Box 359, Van Buren 72956	474-6832
GP	Stone, Marcia	Post Office Box 359, Van Buren 72956	474-6832
CRITTENDEN COUNTY			
PD	Adwell, C. Edward	228 Tyler, West Memphis 72301	735-0833
IM	Aertker, Roger C.	228 Tyler, West Memphis 72301	735-0833
GYN	Arnold, Sidney W.	228 Tyler, West Memphis 72301	735-0836
FP	Croom, D. Wayne	Post Office Box 518, West Memphis 72301	735-3846

Type of Practice	Member's Name	Address	Telephone Number
FP	Deneke, Milton D.	Post Office Box 687, West Memphis 72301	735-1170
O&G	Ferguson, T. Murray	200 South Rhodes, West Memphis 72301	735-2150
O&G	Ford, Robert C., Jr.	200 South Rhodes, West Memphis 72301	735-2150
FP	Hamilton, Ralph B.	300 South Rhodes, West Memphis 72301	735-1170
PD	Haynes, Max G.	228 Tyler, West Memphis 72301	735-0833
IM	Herring, William T.	228 Tyler, West Memphis 72301	735-6803
GS	Jay, Gilbert D., III	200 South Rhodes, West Memphis 72301	735-4612
OPH	Kennedy, Keith B.	Post Office Box 489, West Memphis 72301	735-7680
GS	Lanford, H. G.	308 South Rhodes, West Memphis 72301	735-3664
FP	Lubin, Milton	200 South Rhodes, West Memphis 72301	735-3919
FP	McGuire, Sam A., III	Post Office Box 436, Parkin 72373	755-5489
IM	Peeples, Chester W., Jr.	228 Tyler, West Memphis 72301	735-1973
GS	Schoettle, Glenn P.	308 South Rhodes, West Memphis 72301	735-3664
FP	Shrader, Floyd R.	200 South Rhodes, West Memphis 72301	735-3945
FP	Smith, Bedford W.	300 South Rhodes, West Memphis 72301	735-1170
IM	Taylor, C. Herbert, Jr.	228 Tyler, West Memphis 72301	735-2071
R	Uitley, L. Thomas	Post Office Box 248, West Memphis 72301	735-1500, Ext. 218
O&G	Westbrook, H. Wade	200 South Rhodes, West Memphis 72301	735-2150
IM	Wolejko, Raymond E.	228 Tyler, West Memphis 72301	735-0833
FP	Wright, William J.	1605 2nd, Earle 72331	735-4400

CROSS COUNTY

GP	Beaton, K. E.	Post Office Box 158, Wynne 72396	238-2321
GP	Bethell, Robert D.	Post Office Box 158, Wynne 72396	238-2321
FP	Burks, Willard G.	Post Office Box 158, Wynne 72396	238-2321
GP	Crain, Vance J.	Post Office Box 158, Wynne 72396	238-2321
GP	Hayes, Robert A.	Post Office Box E, Wynne 72396	238-3261
FP	Jacobs, James R.	Post Office Box E, Wynne 72396	238-3261
FP	Young, John H.	Post Office Box E, Wynne 72396	238-3261

DALLAS COUNTY

FP	Delamore, John H.	Post Office Box 351, Fordyce 71742	352-7117
FP	Dobson, Jack T.	Post Office Box 816, Fordyce 71742	352-5125
FP	Howard, Don G.	Post Office Box 506, Fordyce 71742	352-3151
FP	Nutt, Hugh A.	Post Office Box 506, Fordyce 71742	352-5144
GP	Taylor, George D.	Post Office Box 36, Sparkman 71763	678-2406

DESHA COUNTY

GP	Harris, Howard R.	207 South Elm, Dumas 71639	382-4425
GP	Hoagland, Robert A.	145 West Waterman, Dumas 71639	382-4878
GP	Money, William L., Jr.	207 South Elm, Dumas 71639	382-4425
GP	Moss, Swan B.	Post Office Box 652, McGehee 71654	222-3141
FP	Prosser, Robert L., III	Post Office Box 707, McGehee 71654	222-6131
FP	Robinson, Guy U.	207 South Elm, Dumas 71639	382-4425
GP	Turney, Lonnie R.	101 South 3rd, McGehee 71654	222-4044
FP	Young, James E.	Post Office Box 707, McGehee 71654	222-6131

DREW COUNTY

PD	Austin, L. K.	766 H. L. Ross Drive, Monticello 71655	367-6832
GP	Binns, Van C.	203 East Trotter, Monticello 71655	367-3531
FP	Busby, Arlee K.	733 Doctors Drive, Monticello 71655	367-3246
GP	Hicks, Charles E.	232 South Main, Monticello 71655	367-2473
FP	Holder, James B.	Veterans Administration Hospital, North Little Rock 72114	372-8361
GP	Price, Johnnie P.	232 South Main, Monticello 71655	367-2473
FP	Wallick, Paul A.	Post Office Box 660, Monticello 71655	367-6867
FP	Wilson, Harold F.	Post Office Box 660, Monticello 71655	367-6868

FAULKNER COUNTY

FP	Abrams, Joe A.	# 8 Laurel Plaza, Conway 72032	329-6862
RD	Archer, Charles A., Jr.	411 Western Avenue, Conway 72032 (Res.)	329-3412
FP	Banister, Bob G.	923 Parkway, Conway 72032	329-3824
AN	Beasley, Margaret D.	Post Office Box 404, Conway 72032	329-8742
FP	Beasley, T. O.	Post Office Box 1386, Conway 72032	329-2946
ADM	Benafield, Robert B.	Post Office Box 2181, Little Rock 72203	378-2131
GP	Daniel, Sam V.	574 Locust, Conway 72032	329-6111
FP	Dobbs, John C.	Post Office Box 1327, Conway 72032	329-2948
FP	Doss, John R.	Post Office Box 1386, Conway 72032	329-2946
#	Downs, J. H.	Nashville	
IM	Furlow, William C.	Post Office Box 1367, Conway 72032	327-1325
OPH	Gardner, Dan R.	Post Office Box 1284, Conway 72032	327-4444
R	Garrison, James S.	Conway Memorial Hospital, Conway 72032	329-3831 Ext. 171
FP	Gordy, Fred, Jr.	552 Locust, Conway 72032	329-6881
OPH	Maie Jimmie J.	Post Office Box 1284, Conway 72032	327-4444
FP	Ross Rex W.	Post Office Box 1327, Conway 72032	329-2948
FP	Sessions, Leslie H.	923 Parkway, Conway 72032	329-3824
FP	Smith, John D.	923 Parkway, Conway 72032	329-3824

FRANKLIN COUNTY

GP	Calaway, Robert L.	Post Office Box C, Mulberry 72947	997-3941
GP	Ewing, Jon R.	604 West Commercial, Ozark 72949	667-4111
GP	Ewing, Rebecca F.	604 West Commercial, Ozark 72949	667-4111
FP	Gibbons, David L.	Post Office Box 136, Ozark 72949	667-2285
ADM	Long, C. C.	Post Office Box 1208, Fort Smith 72902	782-8218

GARLAND COUNTY

IM	Adams, Frank M.	236 Central, Hot Springs 71901	623-8751
IM	Arnold, W. O.	1002 Central Tower Building, Hot Springs 71901	624-1392
U	Aspell, Robert W.	304 St. Louis Place, Hot Springs 71901	321-9013
OTO	Atkinson, Robert H.	303 Central Tower Building, Hot Springs 71901	623-6101
R	Bohnen, Loren O.	901 West Grand, Hot Springs 71901	623-6693
IM	Bond, John B., Jr.	505 West Grand, Hot Springs 71901	624-5697
OTO	Borg, Robert V.	4409 Central, Hot Springs 71901	624-5422
OPH	Bracken, Ronald J.	505 West Grand, Hot Springs 71901	624-4478
GS	Brunner, John H.	101 Whittington, Hot Springs 71901	321-2229
U	Burrow, Thomas E.	903 West Grand, Hot Springs 71901	623-8110
RD	Burton, Frank M.	2300 Central, Hot Springs 71901 (Res.)	623-8323
D	Cates, Jack A.	99 Little Pine, Hot Springs 71901	624-0673
GS	Chamberlain, Joe W.	330 6th, Hot Springs 71901	623-4477
GS	Chamberlain, Warren W.	330 6th, Hot Springs 71901	623-4477
RHU	Clardy, E. K.	Post Office Box 850, Hot Springs 71901	624-1281 Ext. 270
RD	Daniel, R. L.	105 Lowery, Apartment 1203, Hot Springs 71901 (Res.)	623-9753
GP	Davis, James H.	Post Office Box 315, Mount Ida 71957	867-2175
IM	Dembinski, T. Henry	807 1/2 Central, Hot Springs 71901	623-9781

Type of Practice	Member's Name	Address	Telephone Number
OPH	Dodson, John W., Jr.	505 West Grand, Hot Springs 71901	623-4541
ORS	Durham, Thomas M.	505 West Grand, Hot Springs 71901	623-7717
RD	Edwards, G. A.	1 Magda Lane, Hot Springs Village 71901 (Res.)	922-0552
GS	Eisele, W. Martin	101 Whittington, Hot Springs 71901	321-2229
R	Fore, Robert W.	901 West Grand, Hot Springs 71901	623-6693
GP	Fotioo, George J.	505 Central Tower Building, Hot Springs 71901	623-5121
GS	French, James H.	101 Whittington, Hot Springs 71901	321-2229
FP	Gardial, J. Richard	125 Greenwood, Hot Springs 71901	623-3373
FP	Gardner, James L.	125 Greenwood, Hot Springs 71901	623-0904
RD	Garner, Onyx P.	6808 Central, Hot Springs 71901 (Res.)	525-8752
FP	Graham, Richard F.	505 West Grand, Hot Springs 71901	623-4391
NS	Gupta, Surinder N.	606 Central Tower Building, Hot Springs 71901	321-1329
OBG	Haggard, John L.	101 Whittington, Hot Springs 71901	321-2229
OTO	Harper, Edwin L.	4409 Central, Hot Springs 71901	624-5422
RD	Hebert, Gaston A.	802 Prospect, Hot Springs 71901 (Res.)	623-7216
GS	Hill, Robert L.	905 West Grand, Hot Springs 71901	623-9581
FP	Hollis, Thomas H.	125 Greenwood, Hot Springs 71901	623-3373
IM	Hoyt, Jerry L.	328 Quapaw, Hot Springs 71901	624-4581
D	Irwin, William G.	Post Office Box 2588, Hot Springs 71901	321-9455
OBG	Jackson, Haynes G.	Post Office Box 2067, Hot Springs 71901	623-6628
CD	Jayaraman, K. K.	2513 Malvern Avenue, Hot Springs 71901	321-2513
PTH	Jayaraman, Vilasini D.	Post Office Box 1460, Hot Springs 71901	623-2518
OPH	Johnston, Gaither C.	99 Little Pine, Hot Springs 71901	624-7106
GP	Keadle, William R.	Post Office Box P, Glenwood 71943	356-3155
OBG	Kimberlin, G. Dan	101 Whittington, Hot Springs 71901	321-2229
ORS	Kincheloe, Allen D.	505 West Grand, Hot Springs 71901	623-7717
RD	King, Leeman H.	610 Ramble, Hot Springs 71901 (Res.)	623-8185
AN	Klugh, Walter G., Jr.	300 St. Louis Place, Hot Springs 71901	623-9216
RD	Klugh, Walter G., Sr.	230 Pecan, Hot Springs 71901 (Res.)	623-2540
FP	Koehn, Martin A.	101 Whittington, Hot Springs 71901	321-2229
PTH	Lee, W. R.	Post Office Box 1460, Hot Springs 71901	623-2518
P	Lewis, Robert L.	Post Office Box 850, Hot Springs 71901	624-2354
GP	Lovell, Clarence R.	414 Albert Pike, Hot Springs 71901	624-1211
IM	Maruthur, Gopakumar	805 Central Tower Building, Hot Springs 71901	623-1545
IM	Mashburn, William R.	99 Little Pine, Hot Springs 71901	623-4453
GS	Meek, Gary N.	905 West Grand, Hot Springs 71901	623-9581
U	Millwee, Robert H., III	903 West Grand, Hot Springs 71901	623-8110
R	Munos, Louis R.	901 West Grand, Hot Springs 71901	623-6693
ORS	Murray, DuBose	505 West Grand, Hot Springs 71901	623-7717
ORS	McConkie, Stuart B.	715 West Grand, Hot Springs 71901	623-5300
GYN	McCrary, Robert F.	505 West Grand, Hot Springs 71901	321-2217
PD	McFarland, Louis R.	211 Hobson, Hot Springs 71901	321-1314
GP	McMahan, James C.	306 Albert Pike, Hot Springs 71901	624-2111
PD	Newton, Doane M.	236 Woodbine, Hot Springs 71901	321-2546
OBG	Pappas, Deno P.	101 Whittington, Hot Springs 71901	321-2229
GP	Parkerson, Carl R.	300 Woodbine, Hot Springs 71901	624-3379
GP	Parkerson, Cecil W.	1421 Central, Hot Springs 71901	624-3341
IM	Patterson, Ralph M.	236 Central Tower Building, Hot Springs 71901	624-5567
AN	Peeples, Raymond E.	310 Park, Hot Springs 71901	624-3868
GP	Power, Allyn R.	236 Central, Hot Springs 71901	623-3102
FP	Queen, George P.	125 Greenwood, Hot Springs 71901	623-3373
OBG	Rainwater, W. Sloan	101 Whittington, Hot Springs 71901	321-2229
RD	Reed, Lon E.	1110 Prospect, Hot Springs 71901 (Res.)	623-5815
IM	Rogers, I. David	125 Greenwood, Hot Springs 71901	623-3373
PM	Rosenzweig, Joseph L.	Post Office Box 1358, Hot Springs 71901	624-4414
GS	Sammons, Vernon E., Jr.	905 West Grand, Hot Springs 71901	623-9581
RD	Sanders, Hallman E.	220 8afanridge, Hot Springs 71901 (Res.)	624-2869
GP	Seifert, Kenneth A.	8 DeSoto Center, Hot Springs Village 71901	922-0540
FP	Simpson, John B.	101 Whittington, Hot Springs 71901	321-2229
R	Smith, Oliver A.	Houston, Texas	
R	Springer, M. R., Jr.	901 West Grand, Hot Springs 71901	623-6693
R	Springer, William Y.	901 West Grand, Hot Springs 71901	623-6693
RD	Stough, D. B.	819 Prospect, Hot Springs 71901 (Res.)	623-4265
D	Stough, D. B., III	99 Little Pine, Hot Springs 71901	624-0673
OPH	Thomas, Al	Post Office Drawer D, Hot Springs 71901	624-1204
OBG	Thompson, Thomas P., Jr.	101 Whittington, Hot Springs 71901	321-2229
PD	Trieschmann, John W.	236 Woodbine, Hot Springs 71901	321-2540
RD	Wade, H. King, Jr.	118 Trivista, Right, Hot Springs 71901 (Res.)	623-9426
OPH	Wallace, Thomas R.	505 West Grand, Hot Springs 71901	624-0609
GS	Wright, Jack	Post Office Box 128, Malvern 72104	844-4331, Ext. 291

GRANT COUNTY

FP	Clark, Curtis B.	Post Office Box 417, Sheridan 72150 (Res.)	942-2652
GP	Irvin, Jack M.	205 West High, Sheridan 72150	942-3171
RD	Kelly, Miles F.	Post Office Box 247, Sheridan 72150 (Res.)	942-4152
FP	Paulk, Clyde D.	Post Office Box 307, Sheridan 72150	942-5155

GREENE-CLAY COUNTY

R	Baker, Augustus J.	Post Office Box 339, Paragould 72450	236-7733, Ext. 177
GP	Baker, Clark M.	115 West Court, Paragould 72450	236-6356
PTH	Boggs, Dwight F.	#1 Medical Drive, Paragould 72450	239-4640
FP	Bonner, J. Darrell	1015 West Kingshighway, Paragould 72450	239-4076
FP	Collier, George H., Jr.	130 South 14th, Paragould 72450	236-6946
FP	Collier, Jon D.	130 South 14th, Paragould 72450	236-6946
GP	Crow, Asa A.	#1 Medical Drive, Paragould 72450	239-8504
GS	Duckworth, Gordon L.	425 West Jackson, Piggott 72454	598-3881
FP	Duckworth, Hillard R.	425 West Jackson, Piggott 72454	598-2237
GP	Futrell, J. B.	414 West 2nd, Rector 72461	595-3332
OPH	Hardcastle, R. Lowell	#1 Medical Drive, Paragould 72450	236-6948
GP	Harper, Bland R.	Post Office Box C, Monette 72447	486-2131
ORS	Hazzard, Marion P.	#1 Medical Drive, Paragould 72450	236-6996
FP	Hobby, George A.	#1 Medical Drive, Paragould 72450	239-8579
GS	Lawson, J. Larry	#1 Medical Drive, Paragould 72450	239-5916
AN	Martin, Richard O.	Post Office Box 339, Paragould 72450	236-7733, Ext. 194
FP	Mitchell, Bennie E.	901 West Kingshighway, Paragould 72450	239-8576
FP	Muse, Jerry L.	425 West Jackson, Piggott 72454	598-2237
RD	McKelvey, Earle D.	319 Grandview, Clarksville 72830 (Res.)	754-2382
GP	Page, B. C.	#1 Medical Drive, Paragould 72450	236-6930
FP	Price, Robert E.	130 South 14th, Paragould 72450	236-8549
R	Purcell, Donald I.	Post Office Box 339, Paragould 72450	239-8431
PTH	Richmond, Jack G.	Post Office Box 339, Paragould 72450	236-7733
GS	Sellers, John Robert	#1 Medical Drive, Paragould 72450	239-5926
FP	Shedd, Leonus L.	1015 West Kingshighway, Paragould 72450	239-4076
FP	Watson, Samuel D.	901 West Kingshighway, Paragould 72450	236-8591
FP	Williams, Jacob M.	1015 West Kingshighway, Paragould 72450	239-4076

Type of Practice	Member's Name	Address	Telephone Number
HEMPSTEAD COUNTY			
GP	Branch, James W.	426 South Main, Hope 71801	777-4636
FP	Harris, C. Lynn	Post Office Box 687, Hope 71801	777-2321
GP	Harris, Lowell O.	Post Office Box 550, Hope 71801	777-2131
FP	Holt, Forney G.	300 East 6th, Texarkana 75501	774-3211, Ext. 222
GS	Martindale, James G.	116 South Main, Hope 71801	777-3464
#	Martindale, Jud B.	Hope	
GP	McKenzie, Jim	Post Office Box 687, Hope 71801	777-2321
R	Stevens, David G.	1900 South Main, Hope 71801	777-2323
FP	Wright, George H.	200 South Pine, Hope 71801	777-6722
HOT SPRING COUNTY			
GP	Brashears, Larry B.	1234 South Main, Malvern 72104	332-5245
FP	Cobb, Russell W.	1420 Potts, Malvern 72104	332-3112
GP	Cole, John W.	725 East Page, Malvern 72104	332-5641
FP	Ellis, C. Randolph	1004 South Main, Malvern 72104	332-6941
GP	Kersh, Noah B.	151B McBee, Malvern 72104	337-7533
GP	McCray, Raymond V.	214 East Highland, Malvern 72104	332-2704
FP	Peters, Claude F.	1420 Potts, Malvern 72104	332-2521
GP	Vaughan, John A.	115 East Highland, Malvern 72104	332-2371
FP	White, Robert H.	1004 Dyer, Malvern 72104	332-3664
HOWARD-PIKE COUNTY			
PH	Dildy, Edwin V.	410 West Henderson, Nashville 71852	845-4512
GP	Jones, William J.	Post Office Box 49, Glenwood 71943	356-3921
FP	King, Joe D.	Post Office Box 549, Nashville 71852	845-1933
R	Leavelle, Ray W.	Post Office Box 381, Nashville 71852	845-4400
FP	Peebles, Samuel W.	120 West Sybert, Nashville 71852	845-4676
FP	Smith, U. Lee	Post Office Box 807, Nashville 71852	845-3880
GP	Turbeville, James O.	Post Office Box 434, Murfreesboro 71958	285-2182
GP	Vu, Trong V.	Post Office Box 33, Dierks 71833	286-3154
GP	Ward, Hiram T.	Post Office Box 319, Murfreesboro 71958	285-2491
#	Wesson, John H.	Nashville	
FP	White, Phillip L.	Post Office Box 538, Murfreesboro 71958	285-3118
FP	Wilmoth, Marion H.	Post Office Box 804, Nashville 71852	845-4780
INDEPENDENCE COUNTY			
GP	Baker, John R.	Post Office Box 2116, Batesville 72501	793-5251
IM	Baxley, Paul J.	Post Office Box 2116, Batesville 72501	793-5221
FP	Beck, Carl T.	Post Office Drawer J, Mountain View 72560	269-3834
R	Bess, Lloyd G.	929 Broad Street, Batesville 72501	793-2207
RD	Calaway, William H.	807 Boswell, Batesville 72501 (Res.)	793-2728
FP	Gray, W. Paul	Post Office Box 2437, Batesville 72501	793-2321
OPH	Jones, Edward T.	180 North 5th, Batesville 72501	793-5257
FP	Ketz, Wesley J.	Post Office Box 2695, Batesville 72501	793-2371
FP	Lytle, Jim E.	Post Office Box 2116, Batesville 72501	793-6663
GS	Monroe, Howard U.	Monroe Clinic, Mountain View 72560	269-3236
GP	Moody, Lackey G.	Post Office Box 2335, Batesville 72501	793-6887
R	McClain, Charles M., Jr.	929 Broad Street, Batesville 72501	793-2207
GP	Raney, Troy	Post Office Box 83, Cave City 72521	283-5762
GP	Slaughter, Bob L.	Post Office Box 2416, Batesville 72501	793-2540
GP	Smith, Bob G.	Post Office Box 2116, Batesville 72501	793-9352
GS	Stalker, James M.	Post Office Box 2575, Batesville 72501	793-5205
GS	Strickland, Nathan E.	109 North 12th, Batesville 72501	698-1846
GP	Tatum, Harold M.	Post Office Box 126, Melbourne 72556	368-4344
GP	Taylor, Chaney W.	Post Office Box 2116, Batesville 72501	793-5251
GP	Taylor, Charles A.	Post Office Box 2116, Batesville 72501	793-5251
GP	Tucker, Charles L.	Post Office Box 38, Ash Flat 72513	994-7301
AN	Turner, Samuel R.	Post Office Box 2116, Batesville 72501	698-1861, Ext. 291
FP	Walker, A. T.	Post Office Box 135, Thayer, Missouri 65791	417-264-7121
OBG	Wyatt, Finis Q.	Arizona	793-5251
JACKSON COUNTY			
IM	Ashley, John D.	2nd and Laurel, Newport 72112	523-6721
GS	Carney, J. W.	1205 McLain, Newport 72112	523-8911
IM	Dudley, Guilford M.	1205 McLain, Newport 72112	523-8911
PD	Dunlap, Warner B.	1205 McLain, Newport 72112	523-8911
GS	Frankum, Jerry M., Jr.	Post Office Box 606, Newport 72112	523-6721
GP	Green, Roger L.	Post Office Box 159, Newport 72112	523-6721
RD	Harris, M. Haymond	501 Walnut, Newport 72112 (Res.)	523-5168
RD	Jackson, Jabez F.	304 Ash, Newport 72112 (Res.)	523-8314
OBG	Jackson, Jabez F., Jr.	1205 McLain, Newport 72112	523-8911
FP	Junkin, A. Bruce	1205 McLain, Newport 72112	523-8911
RD	Norris, R. O.	(Address unknown)	
OPH	Stanfield, Wayne	Post Office Box 129, Newport 72112	523-3321
RD	Williams, Thomas E.	10 Park Place, Newport 72112 (Res.)	523-6121
GP	Wright, John C.	1205 McLain, Newport 72112	523-8911
JEFFERSON COUNTY			
ADM	Adams, Carl H.	Post Office Box 500, Grady 71644	479-3311
RD	Anderson, Charles W.	1411 Olive Street, Pine Bluff 71601 (Res.)	535-1661
FP	Atnip, Gwyn	1111 West 15th, Pine Bluff 71603	535-3551
FP	Bell, Carl H., Jr.	1602 West 42nd, Pine Bluff 71603	535-4850
ORS	Blackwell, Banks	1400 West 43rd, Pine Bluff 71603	534-3122
OBG	Bracy, Calvin M.	1704 West 42nd, Pine Bluff 71603	536-7550
**FP	Braswell, Thomas R.	1515 West 42nd, Pine Bluff 71603	535-6800
U	Brooks, R. Teryl, Jr.	1801 West 40th, Pine Bluff 71603	536-7758
FP	Bryant, R. Frank	1112 South Linden, Pine Bluff 71603	534-4352
OTO	Buckley, J. Wayne	1408 West 43rd, Pine Bluff 71603	535-5719
P	Burford, Thomas G.	4313 West Markham, Little Rock 72201	664-4500
GE	Butler, Robert C.	1624 West 42nd, Pine Bluff 71603	536-7660
PUD	Campbell, James C., Jr.	1720 Doctors Drive, Pine Bluff 71603	536-8507
GP	Cheek, Ben H.	1515 West 42nd, Pine Bluff 71603	535-2890
PTH	Clark, James F., Jr.	1515 West 42nd, Pine Bluff 71603	535-6800
**FP	Clark, Robert B.	1310 Cherry, Pine Bluff 71601	541-0770
FP	Coker, L. Randle	Post Office Box 276, Star City 71667	628-4292
EM	Cranford, Russell L., II	5 Jefferson Place, Pine Bluff 71603	536-3717
IM	Crenshaw, John	1421 Cherry, Pine Bluff 71601	535-2200
FP	Cunningham, Thomas J., Jr.	300 West 6th, Pine Bluff 71601	534-4723
D	Davis, Charles M.	1416 West 43rd, Pine Bluff 71603	535-7477
P	Dean, Lee A.	Post Office Box 1019, Pine Bluff 71613	534-1834
IM	Dedman, John D.	4201 Mulberry, Pine Bluff 71603	535-2200

Type of Practice	Member's Name	Address	Telephone Number
CD	Deneke, William A.	1612 West 42nd, Pine Bluff, 71603	536-3015
OBG	Devi, Talluri S.	1608 West 42nd, Pine Bluff 71603	536-0974
GS	Dickins, Robert D.	1003 Cherry, Pine Bluff 71601	534-8141
R	Fendley, Claude E.	Post Office Box 7863, Pine Bluff 71611	534-8651
OPH	Glasscock, Robert E.	1706 Doctors Drive, Pine Bluff 71603	534-4357
PD	Green, Horace L.	1420 West 43rd, Pine Bluff 71603	534-6210
ORS	Gullett, Robert R., Jr.	1714 Doctors Drive, Pine Bluff 71603	536-7579
R	Hardin, J. David	Post Office Box 7863, Pine Bluff 71611	534-8651
IM	Harper, William F.	1702 West 42nd, Pine Bluff 71603	536-9230
N	Harris, Ruben M.	1726 Doctors Drive, Pine Bluff 71603	536-7806
PD	Hart, J. Clyde, Jr.	1420 West 43rd, Pine Bluff 71603	534-6210
OBG	Hayden, Virgil L.	1706 West 42nd, Pine Bluff 71603	535-1880
R	Hegwood, Henri M.	Post Office Box 7863, Pine Bluff 71611	534-8651
EM	Henderson, Francis M.	1515 West 42nd, Pine Bluff 71603	536-7317
PH	Herron, John T.	Post Office Box 7267, Pine Bluff 71611	535-2142
IM	Hoover, S. H.	1610 West 42nd, Pine Bluff 71603	536-7300
OPH	Hughes, L. Milton	1414 West 43rd, Pine Bluff 71603	536-7738
FP	Hussain, Shafqat	1710 West 42nd, Pine Bluff 71603	535-4640
U	Hutchison, Ernest L.	1724 West 42nd, Pine Bluff 71603	535-1562
OBG	Hyman, Carl E.	121 East 4th, Pine Bluff 71601	534-3365
GS	Irwin, Raymond A., Jr.	1421 Cherry, Pine Bluff 71601	535-2200
P	James, William Joe	Post Office Box 1019, Pine Bluff 71613	534-1834
CD	Jenkins, B. J.	1612 West 42nd, Pine Bluff 71603	536-3015
AN	Jenkins, Mary Ellen	1410 West 42nd, Pine Bluff 71603	535-5522
R	Joseph, Aubrey S.	Post Office Box 7863, Pine Bluff 71611	534-8651
AN	Khan, Mahmood A.	1410 West 42nd, Pine Bluff 71603	535-5522
GS	King, G. Errol	1107 Cherry, Pine Bluff 71601	534-5141
OPH	King, Yum Y.	4800 South Hazel, Pine Bluff 71603	536-1897
**FP	Lack, Michael D.	1310 Cherry, Pine Bluff 71601	541-0770
OTO	Langston, Lloyd G.	1408 West 43rd, Pine Bluff 71603	535-5719
FP	Lindsey James A.	1310 Cherry, Pine Bluff 71601	541-0770
AN	Malik, Rustam A.	1410 West 42nd, Pine Bluff 71603	535-5522
GP	Maynard, Ross E.	115 East 5th, Pine Bluff 71603	534-5732
GS	Meredith, William R.	1716 West 42nd, Pine Bluff 71603	535-8727
ADM	Miller, Donald L.	1515 West 42nd, Pine Bluff 71603	535-3549
R	Milligan, Monte C.	Post Office Box 7863, Pine Bluff 71611	534-8651
IM	Monroe, Sanford C.	4201 Mulberry, Pine Bluff 71603	535-2200
FP	Morris, Harold J.	1030 Poplar, Pine Bluff 71601	534-0822
R	McDonald, Robert L.	Post Office Box 7863, Pine Bluff 71611	534-8651
FP	McKinney, Daniel C.	1420 West 43rd, Pine Bluff 71603	534-6210
OPH	Nixon, William R.	709 West 6th, Pine Bluff 71601	534-2624
IM	Nuckolls, J. William	1720 Doctors Drive, Pine Bluff 71603	541-0222
RD	Payne, Virgil L.	802 West 5th, Pine Bluff 71601 (Res.)	534-5618
CD	Pearce, Malcolm B.	1612 West 42nd, Pine Bluff 71603	536-3015
FP	Perry, V. Bryan	1722 West 42nd, Pine Bluff 71603	535-4141
OBG	Pierce, J. R., Jr.	1712 West 42nd, Pine Bluff 71603	535-3443
GP	Raney, Oliver C.	1720 West 42nd, Pine Bluff 71603	534-5861
	Reaves, Charles E.	Galesburg, Illinois	
ORS	Reed, E. Frank	916 Cherry, Pine Bluff 71601	535-0121
PD	Reid, Lloyene B.	1606 West 42nd, Pine Bluff 71603	534-2232
PD	Rhyne, James T.	1420 West 43rd, Pine Bluff 71603	534-6210
GS	Rittelmeyer, Clarence M.	1716 West 42nd, Pine Bluff 71603	535-8727
OBG	Roaf, Sterling A.	1310 Linden, Pine Bluff 71603	536-4602
GS	Roberson, George V.	1708 Doctors Drive, Pine Bluff 71603	535-2716
N	Roberts, Dave A.	Post Office Box 1414, Pine Bluff 71613	535-2200
FP	Robinette, Joseph S.	1722 Doctors Drive, Pine Bluff 71603	535-2372
GE	Rogers, Henry L.	1624 West 42nd, Pine Bluff 71603	536-7660
RD	Russell, Allen R.	12 Southern Pines Drive, Pine Bluff 71603 (Res.)	534-6481
GYN	Simmons, Calvin R.	1714 West 42nd, Pine Bluff 71603	535-3213
N5	Simpson, P. B., Jr.	1724 Doctors Drive, Pine Bluff 71603	536-8547
GS	Smith, Robert J.	817 Cherry, Pine Bluff 71601	535-1880
GS	Stern, Howard S.	1315 South Linden, Pine Bluff 71603	534-0342
GS	Sullenberger, A. G.	1726 West 42nd, Pine Bluff 71603	534-4407
IM	Talbot, George B.	4201 Mulberry, Pine Bluff 71603	535-2200
PTH	Tisdale, Alfred D., Jr.	1515 West 42nd, Pine Bluff 71603	535-6800
PD	Townsend, Thomas E.	1420 West 43rd, Pine Bluff 71603	534-6210
IM	Tracy, C. Clyde	1421 Cherry, Pine Bluff 71601	535-2200
**FP	White, Corbit L.	1310 Cherry, Pine Bluff 71601	541-0770
GS	Wilkins, Walter J., Jr.	1220 West 42nd, Pine Bluff 71603	535-2100
IM	Wineland, H. L.	1710 Doctors Drive, Pine Bluff 71603	534-3561
A	Worrell, Aubrey M., Jr.	1600 West 42nd, Pine Bluff 71603	535-8200
FP	Yalamanchili, Rajasekhara R.	1310 Cherry, Pine Bluff 71601	541-0770

JOHNSON COUNTY

FP	Fraser, Robert E.	Post Office Box 668, Clarksville 72830	754-8384
FP	McAuley, John R.	Post Office Box 668, Clarksville 72830	754-8384
FP	Patterson, Jack T.	Post Office Box 668, Clarksville 72830	754-8384
FP	Pennington, Donald H.	Post Office Box 668, Clarksville 72830	754-8384
GP	Shrigley, Guy P.	Post Office Box 70, Clarksville 72830	754-2043
FP	Taylor, George W.	Post Office Box 668, Clarksville 72830	754-8384
GP	West, Boyce W.	Post Office Box 220, Clarksville 72830	754-8384

LAFAYETTE COUNTY

GP	Ditsch, Craig E.	Post Office Box 276, Stamps 71860	533-4461
GP	Lee, Willie J.	Post Office Box 276, Stamps 71860	533-4461

LAWRENCE COUNTY

GP	Cruse, Edward J.	Post Office Box 116, Black Rock 72415	878-6209
RD	Dickey, Albert B.	704 Northwest 3rd, Walnut Ridge 72476 (Res.)	886-5377
GP	Elders, J. B., Sr.	321 Southwest 3rd, Walnut Ridge 72476	886-3162
FP	Hughes, Joe E.	Post Office Box 150, Walnut Ridge 72476	886-3543
IM	Joseph, Ralph F.	Post Office Box 109, Walnut Ridge 72476	886-3211
FP	Lancaster, Ted S.	Post Office Box 150, Walnut Ridge 72476	886-3543
**OPH	Lowery, Robert D.	Florida	
R	Smoot, John D.	Post Office Box 934, Jonesboro 72401	886-6611
FP	Spades, Sebastian A.	Post Office Box 719, Walnut Ridge 72476	886-3543

LEE COUNTY

GP	Fields, Elizabeth C.	77 West Main, Marianna 72360	295-5244
FP	Gray, Dwight W.	110 West Chestnut, Marianna 72360	295-3131
FP	McLendon, Mac	Post Office Box 794, Marianna 72360	295-2711
GP	Thornton, Eleanor	Address Unknown	

Type of Practice	Member's Name	Address	Telephone Number
LINCOLN COUNTY			
GP.....	Freeland, James W.....	Post Office Box 159, Star City 71667.....	628-4226
LITTLE RIVER COUNTY			
FP.....	Armstrong, James D.....	Post Office Box 397, Ashdown 71822.....	898-3306
RD.....	Peacock, Norman W., Jr.....	Route 2, Ashdown 71822 (Res.).....	898-3353
FP.....	Shelton, Joe G., Jr.....	Post Office Box 397, Ashdown 71822.....	898-3306
LOGAN COUNTY			
FP.....	Chalfant, Charles H.....	Student Health Services, University of Arkansas, Fayetteville 72701.....	575-4451
FP.....	Daniel, William R.....	114 West 4th, Booneville 72927.....	675-2455
GP.....	Harbison, James D.....	Post Office Box 327, Booneville 72927.....	675-2121
FP.....	Roberts, William J.....	Post Office Box 428, Charleston 72933.....	965-7702
GP.....	Smith, Charles M.....	Post Office Box 286, Paris 72855.....	963-2191
GP.....	Smith, James T.....	Post Office Box 286, Paris 72855.....	963-2191
LONOKE COUNTY			
FP.....	Camp, Arthur W.....	Post Office Box 547, Hazen 72064.....	255-3321
FP.....	Gartman, Joseph F.....	Post Office Box 450, Carlisle 72024.....	552-7561
GP.....	Harris, Willie R.....	Post Office Box 40, England 72046.....	842-2553
GP.....	Holmes, Byron E.....	305 West Front, Lonoke 72086.....	676-6560
FP.....	Inman, Fred C., Jr.....	Post Office Box K, Carlisle 72024.....	552-7575
OM.....	Kimsey, Warren H.....	Remington Arms Company, Lonoke 72086.....	676-3161
FP.....	Morrison, Doyle H.....	Post Office Box 993, Cabot 72023.....	843-3549
CD.....	Schumann, Gerald M.....	Post Office Drawer 1, Des Arc 72040.....	256-4312
GP.....	Washburn, C. Yulan.....	Route 1, Box 219, Ward 72176 (Res.).....	843-3335
MARION COUNTY			
FP.....	Simons, Roger D.....	Post Office Box 538, Flippin 72634.....	453-2274
FP.....	Ward, Daniel F.....	Post Office Box 538, Flippin 72634.....	453-2274
MILLER COUNTY			
R.....	Andrews, Allie E.....	Post Office Box 689, Texarkana 75501.....	774-2121
GS.....	Bransford, Robert M.....	Post Office Box 778, Texarkana 75501.....	774-3211
PD.....	Burnett, James W.....	414 Hazel, Texarkana 75502.....	774-7301
PD.....	Burroughs, James C.....	300 East 6th, Texarkana 75502.....	774-3211
PTH.....	Chappell, Robert H.....	Post Office Box 128B, Texarkana 75501.....	214-794-8311
OPH.....	Cook, Lewis C.....	2020 College Drive, Texarkana 75503.....	214-793-7881
#.....	Cowan, Noel W.....	Texarkana.....	
GS.....	Duncan, Donald L.....	300 East 6th, Texarkana 75502.....	774-3211
P.....	Fisher, Donald E.....	Post Office Box 1987, Texarkana 75501.....	773-4655
IM.....	Goesl, Andrew G.....	Post Office Box 2027, Texarkana 75501.....	214-792-6946
PD.....	Hall, Jon D.....	300 East 6th, Texarkana 75501.....	774-3211
GS.....	Harrell, William B., Jr.....	Post Office Box 2078, Texarkana 75501.....	214-792-8231
OBG.....	Harrison, Jack W.....	Post Office Box 77B, Texarkana 75501.....	774-3211
ORS.....	Hughes, Mary W.....	1001 Main, Texarkana 75501.....	214-792-6976
RD.....	Hughes, Robert P.....	3935 Texas Boulevard, Texarkana 75503 (Res.).....	214-793-3385
GYN.....	Jones, John W.....	300 East 6th, Texarkana 75501.....	774-3211
PTH.....	Joyce, Frederick E.....	Post Office Box 2763, Texarkana 75501.....	774-2121
GP.....	Kemp, Karlton H.....	408 Hazel, Texarkana 75502.....	774-5181
GP.....	Kittrell, James B.....	1001 Main, Texarkana 75501.....	214-794-6107
AN.....	Laws, John K.....	Post Office Box 1140, Texarkana 75501.....	774-7297
R.....	McGinnis, Robert S., Sr.....	Post Office Box 1409, Texarkana 75501.....	214-792-7151
OPH.....	Newton, Norris L.....	Post Office Box 2830, Texarkana 75501.....	214-792-8541
OPH.....	Rana, Jayant B.....	1406 College Drive, Texarkana 75503.....	214-792-3729
IM.....	Rodgers, Nathaniel L.....	300 East 6th, Texarkana 75501.....	774-3211
R.....	Royal, Jack L.....	300 East 6th, Texarkana 75501.....	774-3211
FP.....	Short, Harold H.....	1400 College Drive, Texarkana 75503.....	214-793-5671
GS.....	Smith, A. D.....	Post Office Box 1409, Texarkana 75501.....	214-792-7151
RD.....	Smith, W. Decker.....	2300 Laurel, Texarkana 75501 (Res.).....	773-3503
OPH.....	Soyars, James E.....	2020 College Drive, Texarkana 75503.....	214-793-7791
GP.....	Stringfellow, Jerry B.....	1205 East 35th, Texarkana 75501.....	773-6745
RD.....	Teasley, Gerald H.....	1317 Rio Grande, Texarkana 75503 (Res.).....	214-794-5245
PTH.....	Wicker, Eugene H.....	315 East 5th, Texarkana 75501.....	774-2121
	Wilhelm, Frieda.....	Dallas, Texas.....	
GS.....	Wren, Herbert B.....	Post Office Box 1409, Texarkana 75501.....	214-792-7151
U.....	Yarbrough, Charles P.....	1102 Main, Texarkana 75501.....	214-793-5608
GS.....	Young, Mitchell.....	1406 College Drive, Texarkana 75503.....	214-792-8264
MISSISSIPPI COUNTY			
FP.....	Biggerstaff, Jerry R.....	608 West Lee, Osceola 72370.....	563-3576
IM.....	Brock, Charles C., Jr.....	527 North 6th, Blytheville 72315.....	763-8118
U.....	Campbell, Charles E., Jr.....	501 Hutson, Blytheville 72315.....	763-0855
GP.....	Carson, Rickey R.....	527 North 6th, Blytheville 72315.....	763-8118
FP.....	Cole, C. R.....	519 North 6th, Blytheville 72315.....	763-1554
FP.....	Cullom, S. Reggie.....	608 West Lee, Osceola 72370.....	563-2608
GP.....	Elliott, John Q.....	209 West Ash, Blytheville 72315.....	763-4548
FP.....	Fairley, Eldon.....	Post Office Box 68, Osceola 72370.....	563-6568
FP.....	Fairley, Julian R.....	Post Office Box 68, Osceola 72370.....	563-6568
GS.....	Fergus, R. Scott.....	Professional Building, Osceola 72370.....	563-3248
R.....	Gratz, John F., Jr.....	611 West Lee, Osceola 72370.....	563-7156
GP.....	Green, W. O., Jr.....	Post Office Box 268, Blytheville 72315.....	763-6802
PTH.....	Hart, Sybil R.....	Route 4, Box 327, Blytheville 72315 (Res.).....	763-1617
R.....	Hart, Wade A.....	Route 4, Box 327, Blytheville 72315 (Res.).....	763-1617
FP.....	Holcomb, C. E.....	511 North 6th, Blytheville 72315.....	763-3922
GP.....	Hubener, Lemly L.....	Post Office Box 1806, Blytheville 72315.....	762-2021
	Hubener, Louis F.....	Gainesville, Florida.....	
IM.....	Jones, Herbert.....	Post Office Box 321, Blytheville 72315.....	763-8032
IM.....	Massey, Lorenzo D.....	Post Office Box 388, Osceola 72370.....	563-6242
FP.....	Osborne, Merrill J.....	527 North 6th, Blytheville 72315.....	763-8118
FP.....	Pollock, George D.....	608 West Lee, Osceola 72370.....	563-2608
FP.....	Rhodes, R. F.....	608 West Lee, Osceola 72370.....	563-2608
GP.....	Rodman, Tasker N.....	Post Office Box 260, Leachville 72438.....	539-6337
GP.....	Russell, James D.....	527 North 6th, Blytheville 72315.....	763-8118
FP.....	Shaneyfelt, E. A.....	Post Office Box 630, Manila 72442.....	561-4421
GS.....	Sims, Hunter C., Jr.....	525 North 10th, Blytheville 72315.....	763-0521
FP.....	Utley, F. E.....	515 North 6th, Blytheville 72315.....	763-4575
OPH.....	Webb, J. J.....	Post Office Box 547, Blytheville 72315.....	762-2131
OBG.....	Workman, W. W.....	527 North 6th, Blytheville 72315.....	763-8118
GS.....	Zufari, Munir.....	527 North 6th, Blytheville 72315.....	763-8118

Type of Practice	Member's Name	Address	Telephone Number
MONROE COUNTY			
FP.....	David, N. C., Jr.....	108 West Ash, Brinkley 72021	
GP.....	Pupsta, Benedict F.....	Post Office Box 250, Clarendon 72029	734-2202
GP.....	Stone, Herd E.....	Post Office Box A, Holly Grove 72069	747-3321
GP.....	Walker, Walter L.....	114 South New Orleans, Brinkley 72021	462-3393
FP.....	Williams, J. P., Jr.....	127 South New Orleans, Brinkley 72021	734-3242
			734-1331
NEVADA COUNTY			
GP.....	Avery, Charles D.....	427 East 6th, Prescott 71857	
GP.....	Crow, H. Blake.....	327 East 2nd South, Prescott 71857	887-2625
GP.....	Hairston, Glenn G.....	Post Office Box 675, Prescott 71857 (Res.)	887-3846
#.....	Harrell, L. J.....	Prescott	887-2155
FP.....	Portis, Richard P.....	Post Office Box 442, Prescott 71857	
FP.....	Russell, James T.....	Post Office Box 442, Prescott 71857	887-6651
FP.....	Young, Michael C.....	Post Office Box 442, Prescott 71857	887-6651
			887-6651
OUACHITA COUNTY			
U.....	Brown, Charles H.....	2301 West Main, Russellville 72801	
IM.....	Dedman, J. L.....	415 Hospital Drive, Camden 71701	968-3323
FP.....	Drewrey, Lawrence E.....	Post Office Box 995, Camden 71701	836-5013
AN.....	Ellis, Joseph L.....	Post Office Box 126, Camden 71701	836-6811
GS.....	Fohn, Charles H.....	415 Hospital Drive, S.W., Camden 71701	836-7144
GP.....	Guthrie, James.....	353 Cash Road, Camden 71701	836-5013
FP.....	Hout, Judson N.....	Post Office Box 757, Camden 71701	836-8101
GS.....	Jameson, J. B., Jr.....	Post Office Box 994, Camden 71701	836-8101
FP.....	Kendall, J. R.....	353 Cash Road, Camden 71701	836-5088
FP.....	Livingston, Billy B.....	225 Jackson, Camden 71701	836-8101
RD.....	Miller, John H.....	816 Clifton, N.W., Camden 71701 (Res.)	836-7367
FP.....	Nunnally, Robert H.....	353 Cash Road, Camden 71701	836-2549
IM.....	Ozment, Lowell V.....	353 Cash Road, Camden 71701	836-8101
GYN.....	Plant, Richard F.....	Post Office Box 762, Camden 71701	836-8101
FP.....	Sanders, Cal R.....	353 Cash Road, Camden 71701	836-4169
R.....	Thorne, A. E.....	Post Office Box 797, Camden 71701	836-8101
			836-1221
PHILLIPS COUNTY			
GP.....	Barrow, John H.....	614 Oakland, Helena 72342	
FP.....	Bell, L. J. Patrick.....	626 Poplar, Helena 72342	338-8622
OPH.....	Berger, Alfred A.....	801 Perry, Helena 72342	338-8163
R.....	Biggs, William W.....	Helena Hospital, Helena 72342	338-8781
RD.....	Butts, James W.....	708 McDonough, Helena 72342 (Res.)	338-6411
FP.....	Capes, Bernard.....	Post Office Box 2398, West Helena 72390	338-8006
GP.....	Ellis, William A., Jr.....	603 Porter, Helena 72342	572-2621
GS.....	Elovitz, Maurice J.....	408 Porter, Helena 72342	338-3037
GP.....	Faulkner, H. N.....	513 Porter, Helena 72342	338-7218
FP.....	Kirkman, C. M. T.....	1105 Perry, Helena 72342	338-7401
FP.....	Mateus, Francy M.....	Norwalk, California	338-8712
GP.....	Miller, Robert D.....	616 Elm, Helena 72342	
FP.....	McCarty, C. P.....	513 Porter, Helena 72342	338-8531
GP.....	McCarty, Gordon E., Jr.....	107 Hickory Hill, Helena 72342	338-7401
GP.....	McDaniel, M. A.....	513 Porter, Helena 72342	338-8377
GP.....	Oldham, H. B.....	Post Office Box 2538, West Helena 72390	338-7401
GP.....	Paine, William T.....	661 Oakland, Helena 72342	572-7581
U.....	Vasudevan, Parthasarathy.....	633 Oakland, Helena 72342	572-6413
GP.....	Wise, James E., Jr.....	Post Office Box 66, Marvell 72366	338-6740
			829-2386
POLK COUNTY			
FP.....	Fried, David D.....	Northside Shopping Center, Mena 71953	
GP.....	Hefner, David P.....	518 Janssen, Mena 71953	394-5880
GP.....	Redman, Pierre P.....	513 Mena, Mena 71953	394-3550
GP.....	Rogers, Henry N.....	600 West 7th, Mena 71953	394-2277
GS.....	Wood, John P.....	907 Mena, Mena 71953	394-3344
			394-4221
POPE COUNTY			
FP.....	Ashcraft, Ted E.....	2524 West Main, Russellville 72801	
OTO.....	Austin, Nathan F.....	2504 West Main, Russellville 72801	968-7170
GS.....	Bachman, David S.....	3105 West Main Place, Russellville 72801	968-5261
OBG.....	Battles, Larry D.....	3105 West Main Place, Russellville 72801	968-2345
P.....	Bell, Linda O.....	2301 West Main, Russellville 72801	968-2345
U.....	Bell, Robert A.....	2301 West Main, Russellville 72801	968-3323
AN.....	Birum, Patricia J.....	Post Office Box 785, Russellville 72801	968-3323
PD.....	Bost, R. Kingsley.....	3105 West Main Place, Russellville 72801	968-5670
R.....	Burgess, James G.....	2504 West Main, Russellville 72801	968-2345
FP.....	Carter, James M.....	3105 West Main Place, Russellville 72801	968-7930
GS.....	Crumpler, Joe B.....	3105 West Main Place, Russellville 72801	968-2345
OBG.....	Dunn, Donald L.....	3105 West Main Place, Russellville 72801	968-2345
D.....	Galloway, William W.....	2504 West Main, Russellville 72801	968-2345
OPH.....	Gardner, Ellis.....	Post Office Box 400, Russellville 72801	968-6769
RD.....	Gavlas, Frank E.....	310 North 2nd, Dardanelle 72834 (Res.)	968-2242
RD.....	Heidgen, Martin F.....	3028 Painted Valley Drive, Little Rock 72207 (Res.)	229-3306
FP.....	Henry, J. Arnold.....	3105 West Main Place, Russellville 72801	227-5107
ORS.....	Honghiran, Ted.....	2504 West Main, Russellville 72801	968-2345
GS.....	Kimball, G. Howard.....	1919 West Main, Russellville 72801	968-3200
R.....	King, John W.....	2504 West Main, Russellville 72801	968-3611
GP.....	King, W. E., Jr.....	3105 West Main Place, Russellville 72801	968-7930
ORS.....	Kolb, James M., Jr.....	305 Skyline Drive, Russellville 72801	968-2345
FP.....	Lane, W. H., Jr.....	625 Water, Dover 72837	968-2124
OPH.....	Lawrence, Frank M.....	Post Office Box 400, Russellville 72801	331-2828
OPH.....	Lovell, Richard K.....	Post Office Box 1107, Russellville 72801	968-2242
FP.....	Lowrey, Douglas H.....	909 West Main, Russellville 72801	968-7302
OPH.....	Lyford, Joe H., Jr.....	Post Office Box 1107, Russellville 72801	968-2156
GP.....	Malone, George E.....	Post Office Box 187, Atkins 72823	968-7302
FP.....	Mauch, E. Jane.....	3105 West Main Place, Russellville 72801	641-2992
FP.....	Meyer, Kelly H.....	809 West Main, Russellville 72801	968-2345
RD.....	Millard, Roy I.....	1704 West 3rd Court, Russellville 72801 (Res.)	968-2156
OPH.....	Mobley, Max J.....	Post Office Box 400, Russellville 72801	968-2604
RD.....	McNamara, William L.....	2121 Towson, Fort Smith 72901 (Res.)	968-2242
FP.....	New, Kenneth O.....	3105 West Main Place, Russellville 72801	785-1441
PTH.....	Stolz, Gerald A., Jr.....	Post Office Box 925, Russellville 72801	968-2345
FP.....	Teeter, Stanley D.....	3105 West Main Place, Russellville 72801	968-6781
IM.....	Thurlby, W. Robert.....	3105 West Main Place, Russellville 72801	968-2345
IM.....	Wilkins, Charles F., Jr.....	3105 West Main Place, Russellville 72801	968-2345
GP.....	Williams, David M.....	809 West Main, Russellville 72801	968-2345
EM.....	Young, Sandra S.....	1808 West Main, Russellville 72801	968-2156
			968-8111

Type of Practice	Member's Name	Address	Telephone Number
PULASKI COUNTY			
AN	Abbott, William W.	500 South University, Little Rock 72205	664-4532
GE	Abraham, James H.	10001 Lile Drive, Little Rock 72205	227-8000
NS	Adamez, John H.	750 Medical Towers Building, Little Rock 72205	225-0880
IM	Adamson, James S.	890 Medical Towers Building, Little Rock 72205	224-0110
OPH	Alford, T. Dale	5700 West Markham, Little Rock 72205	664-5100
OBG	Allen, D. B.	500 South University, Little Rock 72205	664-4131
OBG	Allen, E. Stewart	1100 North University, Little Rock 72207	664-9191
TS	Allen, John E., Jr.	1050 Medical Towers Building, Little Rock 72205	227-8300
PS	Allen, Thomas H. "Bill"	413 North University, Little Rock 72205	664-0900
HEM	Amir, Jacob	10001 Lile Drive, Little Rock 72205	227-8000
FP	Anderson, J. Roland	1308 East Kiehl, Sherwood 72116	835-0703
FP	Anderson, Leslie F.	Post Office Box 805, Jacksonville 72076	982-4551
OM	Armstrong, Howard M.	340 Doctors Park Building, Little Rock 72205	227-7888
PTH	Atkinson, William E., Jr.	#1 St. Vincent Circle, Little Rock 72205	661-8542
RD	Ault, Charles C.	#3 Helen Drive, North Little Rock 72116 (Res.)	374-0748
RD	Aufry, Daniel H.	1900 North Tyler, Little Rock 72207 (Res.)	664-2332
GS	Baber, John C., Jr.	500 South University, Little Rock 72205	664-2434
OT	Bailey, H. A. Ted, Jr.	1200 Medical Towers Building, Little Rock 72205	227-5050
PTH	Baker, Glen F.	4301 West Markham, Slot 517, Little Rock 72201	661-5170
U	Baker, Johnson J.	500 South University, Little Rock 72205	664-4365
PD	Baldwin, Deane G.	500 South University, Little Rock 72205	664-4044
FP	Ballard, C. E., Jr.	250 Doctors Park Building, Little Rock 72205	224-0102
GYN	Barclay, David L.	500 South University, Little Rock 72205	664-8502
GYN	Bard, David S.	4301 West Markham, Little Rock 72201	661-5923
FP	Barg, Charles D.	100 Doctors Park Building, Little Rock 72205	224-5220
CD	Barlow, Brian E.	#1 St. Vincent Circle, Little Rock 72205	664-5860
U	Barnett, Troy F.	#1 St. Vincent Circle, Little Rock 72205	664-1762
R	Barnhard, Howard J.	4301 West Markham, Slot 598, Little Rock 72201	661-5740
FP	Barron, Edwin N., Jr.	7915 Cantrell Road, Little Rock 72207	225-9222
OBG	Batres-Soza, Francisco	4301 West Markham, Little Rock 72201	661-5923
GS	Bauer, Frank M.	500 South University, Little Rock 72205	664-2245
R	Bearden, James R.	1100 Medical Towers Building, Little Rock 72205	227-5240
OPH	Becquet, Norbert J.	115 West 6th, Little Rock 72201	375-4419
FP	Belknap, Melvin L.	1801 Maple, North Little Rock 72114	758-1002
RD	Bennett, Eaton W.	1003 Loretta Lane, Little Rock 72207 (Res.)	225-2478
GS	Berry, Fred B.	1060 Medical Towers Building, Little Rock 72205	224-3424
EM	Bethell, John P., Jr.	Memorial Hospital, North Little Rock 72114	771-3001
P	Betts, Charles S.	50 Westwind Drive, North Little Rock 72118	771-1927
GS	Bevans, David W., Jr.	406 West Pershing, North Little Rock 72114	758-1620
AN	Beverly, Nolan F.	7518 Choclaw, Little Rock 72205 (Res.)	664-1616
D	Biondo, Raymond V.	Post Office Box 921, North Little Rock 72115	758-2588
CD	Bishop, William B.	10001 Lile Drive, Little Rock 72205	227-8000
U	Bissada, Nabil K.	4301 West Markham, Slot 540, Little Rock 72201	661-5240
#	Bizzell, Ross	Little Rock	
U	Black, Hal R., Jr.	200 Doctors Park Building, Little Rock 72205	225-9755
GP	Black, H. Thurston	123 North Van Buren, Little Rock 72205	666-0142
FP	Black, Millard W.	705 North Ash, Little Rock 72205	663-5413
GE	Blackshear, Jack L.	650 Medical Towers Building, Little Rock 72205	227-8074
ORS	Blankenship, William F.	1100 North University, Little Rock 72207	664-5720
PD	Boellner, Samuel W.	300 Medical Towers Building, Little Rock 72205	227-4750
CD	Boger, James E.	690 Medical Towers Building, Little Rock 72205	227-7596
NS	Boop, Warren C., Jr.	4301 West Markham, Slot 507, Little Rock 72201	661-5270
PD	Bost, Roger B.	4301 West Markham, Slot 599, Little Rock 72201	661-5260
ORS	Bowker, John H.	12th and Marshall, Little Rock 72201	227-3532
NM	Boyd, Charles M.	4301 West Markham, Little Rock 72201	661-5761
P	Boyle, Ronald H.	Route 1, Box 1A1/2, Roland 72135	868-5882
U	Bradburn, Curry B.	200 Doctors Park Building, Little Rock 72205	225-9755
R	Brenner, George H., Jr.	1100 Medical Towers Building, Little Rock 72205	227-5240
PD	Briggs Barnett P.	500 South University, Little Rock 72205	664-4117
PD	Briggs, Dale D.	500 South University, Little Rock 72205	664-0804
IM	Brinkley, Roy A.	220 Doctors Park Building, Little Rock 72205	227-6350
OTO	Brizzolara, A. J.	500 South University, Little Rock 72205	664-4381
P	Broach, R. Fred	12115 Hinson Road, Little Rock 72212	227 0680
RD	Brown, Martha M.	2014 Boulevard, Little Rock 72204 (Res.)	663-7697
U	Brown, T. Duell	1120 Marshall, Little Rock 72202	375-3376
GE	Browning, Donald G.	409 North University, Little Rock 72205	664-6980
ADM	Bruce, Thomas A.	4301 West Markham, Little Rock 72201	661-5350
GS	Buchanan, F. R.	500 South University, Little Rock 72205	664-4324
PD	Buchanan, Gilbert A.	500 South University, Little Rock 72205	664-4117
GS	Buchman, Joseph A.	500 South University, Little Rock 72205	664-9116
AN	Bumpas, Joe H.	500 South University, Little Rock 72205	664-4532
PTH	Burger, Robert A.	9600 West 12th, Little Rock 72201	227-2888
GS	Burnett, Hugh F.	990 Medical Towers Building, Little Rock 72205	227-9080
P	Busby, John V.	12115 Hinson Road, Little Rock 72212	227-0680
AN	Byrd, Lucas M., Jr.	36 Lakesore Drive, Little Rock 72204 (Res.)	565-6046
R	Caignet, Juan E.	300 East Roosevelt Road, Little Rock 72206	372-8361, Ext. 383
OPH	Calcote, Robert A.	2500 McCain Place, North Little Rock 72116	771-1166
GS	Caldwell, Fred T., Jr.	4301 West Markham, Little Rock 72201	661-6173
GP	Calhoun, J. Dale	Post Office Box 805, Jacksonville 72076	982-4551
R	Calhoun, Joseph D.	500 South University, Little Rock 72205	664-3914
AN	Callender, Thomas B.	500 South University, Little Rock 72205	661-4180
TS	Campbell, Gilbert S.	4301 West Markham, Little Rock 72201	661-6177
R	Campbell, James W.	500 South University, Little Rock 72205	664-3914
A	Caplinger, Kelsy J., III	Post Office Box 5675, Little Rock 72215	227-5210
**FP	Carlson, Kevin R.	4301 West Markham, Little Rock 72201	661-5000
P	Carnahan, Robert G.	4313 West Markham, Little Rock 72201	664-4500
D	Carrington, John M.	2504 McCain Place, North Little Rock 72116	771-0596
GP	Carson, Layne E.	300 East Roosevelt Road, Little Rock 72205	372-8361, Ext. 585
R	Caruthers, Samuel B., Jr.	1100 Medical Towers Building, Little Rock 72205	227-5240
RD	Cazort, Alan G.	5117 Edgewood, Little Rock 72207 (Res.)	663-3623
ORS	Chakales, Harold H.	405 North University, Little Rock 72205	664-1500
OPH	Chandler, Billy M.	406 West Pershing, North Little Rock 72114	758-1651
FP	Chapman, Jerry C.	Post Office Box 805, Jacksonville 72076	982-4551
RD	Chappell, Ewin S.	400 North University, Little Rock 72205 (Res.)	663-4747
FP	Cheairs, David B.	330 Doctors Park Building, Little Rock 72205	227-6363
#	Childs, William W.	Little Rock	
R	Chisholm, Dan P.	500 South University, Little Rock 72205	664-3914
U	Christeson, William W.	300 East Roosevelt Road, Little Rock 72206	372-8361
ORS	Christian, John D.	1100 North University, Little Rock 72207	664-7710
FP	Chudy, Amail	1801 Maple, North Little Rock 72114	758-1002
FP	Church, B. L.	321 Maple, North Little Rock 72114	374-7796
OBG	Church, Marion M.	410 West Pershing, North Little Rock 72114	758-1022
AN	Clark, Richard B.	4301 West Markham, Little Rock 72201	661-5000
OPH	Clifton, E. C.	516 Scott, Little Rock 72201	374-6338
FP	Cobb, Jock S.	North Hills Family Clinic, Sherwood 72116	835-6800

Type of Practice	Member's Name	Address	Telephone Number
R	Cockrill, Howard, Jr.	500 South University, Little Rock 72205	664-3914
OTO	Colclasure, Joe B.	1200 Medical Towers Building, Little Rock 72205	227-5050
OPH	Cook, Raymond C.	601 Scott, Little Rock 72201	375-8273
OBG	Cornell, Paul J.	500 South University, Little Rock 72205	664-2277
OS	Cornett, James K.	5326 West Markham, Little Rock 72205	664-6603
OPH	Cosgrove, K. W., Jr.	630 Medical Towers Building, Little Rock 72205	224-0400
CRS	Craig, Marion S.	500 South University, Little Rock 72205	666-0106
GYN	Crews, J. Travis	500 South University, Little Rock 72205	664-8505
OPH	Cross, J. B.	500 South University, Little Rock 72205	666-0126
CDS	Crow, R. Lewis	600 Medical Towers Building, Little Rock 72205	227-9434
IM	Cullen, Philip T.	500 South University, Little Rock 72205	664-4171
R	Dalrymple, Glenn V.	1100 Medical Towers Building, Little Rock 72205	227-5240
FP	Daugherty, Joe D.	Post Office Box 459, Jacksonville 72076	982-2141
**FP	Daugherty, John L.	1001 North Coolidge, Little Rock 72207 (Res.)	661-9956
OBG	Davis, Gary D.	880 Medical Towers Building, Little Rock 72205	224-5050
GS	Dean, Gilbert O.	403 Donaghey Building, Little Rock 72201	375-5543
OPH	Deer, Philip J., Jr.	6500 West Markham, Little Rock 72205	224-4701
PD	Dennis, James L.	4301 West Markham, Little Rock 72201	661-5689
NS	Dickins, Robert D., Jr.	750 Medical Towers Building, Little Rock 72205	225-0880
ORS	Dickson, D. Bud.	#1 St. Vincent Circle, Little Rock 72205	661-0350
FP	Dillard, Daniel C.	3500 South University, Little Rock 72204	562-4838
R	Diner, Wilma C.	4301 West Markham, Little Rock 72201	661-5745
R	Dodd, Doyle	1100 Medical Towers Building, Little Rock 72205	227-5240
OBG	Dodge, Eva F.	4815 West Markham, Little Rock 72201	661-2242
ORS	Dodson, C. Frank, Jr.	Post Office Box 5270, Little Rock 72215	224-6900
ORS	Dornenburg, Peter R.	#1 St. Vincent Circle, Little Rock 72205	661-0350
P	Douglas, Warren M.	260 Medical Towers Building, Little Rock 72205	224-2447
GS	Downs, John W.	500 South University, Little Rock 72205	666-5922
U	Downs, Ralph A.	#1 St. Vincent Circle, Little Rock 72205	664-1762
PD	Dungan, William T.	9th and Marshall, Little Rock 72201	378-0498
FP	Durham, James W.	Post Office Box 805, Jacksonville 72076	982-4551
PH	Easley, Edgar J.	4815 West Markham, Little Rock 72201	661-2123
ORS	Easter, Rex M.	601 North University, Little Rock 72205	666-0144
P	Eckart, Emile P.	4313 West Markham, Little Rock 72201	664-8489
AN	Edge, Otis H.	500 South University, Little Rock 72205	664-4500, Ext. 201
FP	Evans, Gilbert C.	4942 West Markham, Little Rock 72205	664-4127
GP	Farmer, Joseph F.	9501 North Rodney Parham Road, Little Rock 72207	225-2594
FP	Farris, Guy R.	6213 Lee Avenue, Little Rock 72205	664-2115
IM	Fendley, Jack T.	2500 McCain Place, North Little Rock 72116	771-0300
R	Ferris, Ernest J.	4301 West Markham, Little Rock 72201	653-2244
FP	Fewell, Ronald D.	Post Office Box 459, Jacksonville 72076	982-2141
GS	Felder, Charles R.	406 West Pershing, North Little Rock 72114	758-1620
R	Fincher, Robert L.	1100 Medical Towers Building, Little Rock 72205	227-5240
U	Finkbeiner, Alex E.	4301 West Markham, Little Rock 72201	661-5240
PD	Fiser, Robert H., Jr.	4301 West Markham, Little Rock 72201	661-5906
GP	Fitzgibbon, Carney, Jr.	410 South Martin, Little Rock 72205 (Res.)	666-8861
FP	Flack, James V., Jr.	424 North University, Little Rock 72205	664-4810
NS	Flanigan, Stevenson	4301 West Markham, Little Rock 72201	661-5270
NS	Flanigin, Herman F., Jr.	4301 West Markham, Little Rock 72201	661-5270
P	Fletcher, Elizabeth D.	2000 Magnolia, Apartment 232, Little Rock 72202 (Res.)	666-1248
NS	Fletcher, Thomas M.	500 South University, Little Rock 72205	664-3021
GYN	Floyd, Bill G.	210 Doctors Park Building, Little Rock 72205	224-6770
OM	Ford, George W.	9000 Interstate 30, Little Rock 72209	569-4284
FP	Foster, Julian L.	3500 South University, Little Rock 72204	562-4838
U	Fraiser, L. P.	200 Doctors Park Building, Little Rock 72205	225-9755
PD	Fraser, Eric A.	516 West Pershing, North Little Rock 72114	758-1530
EM	Fraunfelder, F. T.	Portland, Oregon	
D	Frye, Ivan L.	9600 West Kanis Road, Little Rock 72205	227-2300
OPH	Fulmer, H. Ray	1414 Donaghey Building, Little Rock 72201	374-1649
FP	Fulmer, John M.	5410 West Markham, Little Rock 72205	664-3142
CD	Fulton, William L.	513 Main, North Little Rock 72114	375-2433
N	Galbraith, Jo Etta S.	#1 St. Vincent Circle, Little Rock 72205	664-5860
OTO	Galbraith, Robert C.	300 Medical Towers Building, Little Rock 72205	227-4750
ORS	Gay, Ellery C., Jr.	1200 Medical Towers Building, Little Rock 72205	227-5050
R	Gerdes, Michael H.	804 Wolfe, Little Rock 72201	376-4621
N	Gettys, Joseph M., Jr.	1100 Medical Towers Building, Little Rock 72205	227-2771
NS	Gibson, Gordon L.	300 Medical Towers Building, Little Rock 72205	227-4750
GYN	Giles, Wilbur M.	750 Medical Towers Building, Little Rock 72205	225-0880
PD	Gillespie, A. Tharp	500 South University, Little Rock 72205	664-9555
AN	Glenn, Robert E.	516 West Pershing, North Little Rock 72114	758-1530
END	Glenn, Wayne B.	500 South University, Little Rock 72205	664-4532
R	Glover, Lawson E., Jr.	10001 Lile Drive, Little Rock 72205	227-8000
P	Glover, William C.	1100 Medical Towers Building, Little Rock 72205	227-5240
GE	Good, Henry H.	Route 6, 50 Westwind Drive, North Little Rock 72118	771-1187
A	Gordon, O. T., Jr.	#1 St. Vincent Circle, Little Rock 72205	664-5932
PD	Gordon, Vida H.	9501 North Rodney Parham Road, Little Rock 72207	227-8545
IM	Gosser, Bob L.	516 West Pershing, North Little Rock 72114	758-1530
GS	Goza, George M., Jr.	1120 Marshall, Little Rock 72202	374-9964
R	Graham, G. Grimsley	990 Medical Towers Building, Little Rock 72205	227-9080
+	Gray, Edwin F.	11901 Fairway Drive, Little Rock 72212 (Res.)	224-0220
IM	Gresham, Edward A.	4301 West Markham, Little Rock 72201	661-5000
ORS	Greutter, John E.	500 North University, Little Rock 72205	663-8319
GS	Grimes, H. Austin	Post Office Box 5270, Little Rock 72215	224-6900
FP	Growdon, James H.	500 South University, Little Rock 72205	664-4146
GYN	Gustavus, John L.	2003 Fendley, North Little Rock 72116	758-9350
**GS	Hagler, James L.	500 South University, Little Rock 72205	664-5330
IM	Hale, Janet A.	4301 West Markham, Little Rock 72201	661-5774
PUD	Hall, Alastair D.	500 South University, Little Rock 72205	664-0927
OPH	Hampton, John R.	500 South University, Little Rock 72205	661-9393
OPH	Hankins, Edwin, III	500 South University, Little Rock 72205	666-0311
AN	Hardberger, R. E.	#1 St. Vincent Circle, Little Rock 72205	661-0450
IM	Harger, C. Harold	1150 Medical Towers Building, Little Rock 72205	227-7590
FP	Harper, Ernest H.	400 West Pershing, North Little Rock 72114	227-9000
P	Harper, Gary E.	123 Pearl, Little Rock 72205	375-3000
ONC	Harrendorf, Cagle	500 South University, Little Rock 72205	663-6346
IM	Harris, Donald R.	Post Office Box 7509, Little Rock 72217	664-8573
NM	Harris, Michael N.	10001 Lile Drive, Little Rock 72205	227-8000
P	Harris, William T.	500 South University, Little Rock 72205	664-3914
FP	Harrison, A. Vale	930 Medical Towers Building, Little Rock 72205	225-7433
#	Harrison, Roy E.	8824 Chicot Road, Little Rock 72209	562-8600
P	Harville, William E.	Little Rock	
GS	Hawley, Harold B.	10800 Yosemite Valley Drive, Little Rock 72212	371-3055
PS	Hayden, William F.	500 South University, Little Rock 72205	664-2434
R	Hayes, Harry, Jr.	#1 St. Vincent Circle, Little Rock 72205	666-2811
	Haynes, W. Ducote	500 South University, Little Rock 72205	664-3914

Type of Practice	Member's Name	Address	Telephone Number
U	Headstream, James W.	500 South University, Little Rock 72205.	664-4365
P	Hearnsberger, Henry G., Jr.	4313 West Markham, Little Rock 72201.	664-4500
FP	Hedges, Harold H.	424 North University, Little Rock 72205.	664-4810
A	Hefley, Bill F.	Post Office Box 5675, Little Rock 72215.	227-5210
FP	Hendren, Michael C.	330 Doctors Park Building, Little Rock 72205.	227-6363
P	Henker, Fred O., III.	4301 West Markham, Little Rock 72201.	661-5266
GYN	Henry, Charles R.	500 South University, Little Rock 72205.	664-4191
OPH	Henry, Forrest, Jr.	516 Scott, Little Rock 72201.	374-6338
N	Henry, G. Morrison.	300 Medical Towers Building, Little Rock 72205.	227-4750
OPH	Henry, Richard Y.	405 North University, Little Rock 72205.	664-5354
PD	Henry, Robert L.	500 South University, Little Rock 72205.	664-4044
IM	Herron, Jerry M.	890 Medical Towers Building, Little Rock 72205.	224-0110
AN	Hickey, Joseph P.	1150 Medical Towers Building, Little Rock 72205.	664-2496
FP	Hodges, William B.	Post Office Box 957, North Little Rock 72115.	758-1450
R	Holder, John C.	4301 West Markham, Slot 556, Little Rock 72201.	661-5740
GS	Hollenberg, Henry G.	500 South University, Little Rock 72205.	664-4747
RD	Hollis, Nicholas T.	1817 North Monroe, Little Rock 72207 (Res.)	663-4160
FP	Holmes, Harlan C.	1160 Medical Towers Building, Little Rock 72205.	225-6123
	Holoye, Paul Y.	Wood, Wisconsin	666-7442
GS	Holt, L. Gordon.	5326 West Markham, Little Rock 72205.	664-3914
R	Holton, Jerry C.	500 South University, Little Rock 72205.	664-4161
D	Honeycutt, W. Mage.	500 South University, Little Rock 72205.	661-5741
R	Hooper, Anthony C.	4301 West Markham, Little Rock 72201.	661-2209
PH	Hotchkiss, Robert L.	4815 West Markham, Little Rock 72201.	227-6370
P	Howard, John G.	790 Medical Towers Building, Little Rock 72205.	227-4750
N	Howell, Coburn S., Jr.	300 Medical Towers Building, Little Rock 72205.	375-5338
ORS	Hundley, John M.	412 Cross, Little Rock 72201.	227-4150
ORS	Hutson, Harold G.	110 Doctors Park Building, Little Rock 72205.	664-4500, Ext. 404
ADM	Jackson, George W.	4313 West Markham, Little Rock 72201.	227-600C
IM	Jackson, J. Presley.	10001 Lile Drive, Little Rock 72205.	374-794C
FP	Jackson, M. A.	1304 Wright Avenue, Little Rock 72206.	664-4161
D	Jansen, G. Thomas.	500 South University, Little Rock 72205.	661-0300
CD	Johnson, Ben D.	500 South University, Little Rock 72205.	227-2888
PTH	Johnson, B. Richard	9601 West 12th, Little Rock 72201.	664-8003
OBG	Johnson, Doyle R.	500 South University, Little Rock 72205.	664-4171
IM	Johnson, Henry D.	500 South University, Little Rock 72205.	224-6700
ORS	Johnson, Philip H.	Post Office Box 5270, Little Rock 72215.	661-1711
OBG	Johnson, Spencer L.	500 South University, Little Rock 72205.	664-3904
A	Johnston, Thomas G.	Post Office Drawer A, Little Rock 72205.	224-6900
ORS	Jones, Kenneth G.	Post Office Box 5270, Little Rock 72215.	664-4747
GS	Jones, Robert D.	500 South University, Little Rock 72205.	664-0418
D	Jones, William N.	500 South University, Little Rock 72205.	225-0880
NS	Jouett, W. Ray.	750 Medical Towers Building, Little Rock 72205.	227-5240
R	Joyce, John W.	1100 Medical Towers Building, Little Rock 72205.	821-3276
RD	Junkin, Ruth H.	Route 3, Box 367-D, Little Rock 72211 (Res.)	664-8489
AN	Kaemmerling, Raymond E.	500 South University, Little Rock 72205.	224-2525
FP	Kagy, John K.	10121 North Rodney Parham, Little Rock 72207.	374-5568
IM	Kahn, Alfred, Jr.	1300 West 6th, Little Rock 72201.	661-5171
PTH	Kalderon, Albert E.	4301 West Markham, Little Rock 72201.	664-4161
D	Keeran, Michael G.	500 South University, Little Rock 72205.	753-9464
FP	Kennedy, Charles H.	3115 JFK Boulevard, North Little Rock 72116.	664-4117
PD	Kennedy, H. Frazier.	500 South University, Little Rock 72205.	661-0940
GS	Kilbury, Merlin J.	500 South University, Little Rock 72205.	227-5210
PDA	Kittler, Fred J.	Post Office Box 5675, Little Rock 72215.	227-3000
CD	Kizziar, Jim C.	10001 Lile Drive, Little Rock 72205.	664-4500
P	Koehler, Thomas R.	4313 West Markham, Little Rock 72201.	661-5160
IM	Kohler, Peter O.	4301 West Markham, Little Rock 72201.	227-7590
AN	Kolb, Agnes C.	1150 Medical Towers Building, Little Rock 72205.	225-0887
P	Kolb, W. Payton.	230 Medical Towers Building, Little Rock 72205.	225-7709
RD	Kozberg, Oscar.	28 Kingsbridge Way, Little Rock 72212 (Res.)	663-9441
GYN	Kreth, Kay M.	417 North University, Little Rock 72205.	565-0545
P	Krulin, Gregory S.	2821 South Bryant, Little Rock 72204 (Res.)	374-6371
GP	Krygier, Albin J.	615 Main, Little Rock 72201.	664-1521
GS	Kumpuris, Frank G.	415 North University, Little Rock 72205.	224-5500
OBG	Kwee, James J.	310 Doctors Park Building, Little Rock 72205.	227-8501
OTO	Kyser, James F.	900 Medical Towers Building, Little Rock 72205.	664-1104
OPH	Landers, James H.	500 South University, Little Rock 72205.	227-2771
R	Lane, John W.	9601 Lile Drive, Little Rock 72205.	661-6174
GS	Lang, Nicholas P.	4301 West Markham, Little Rock 72201.	664-8573
R	Langston, Harold D.	Post Office Box 5668, Little Rock 72215.	753-3661
FP	Laurenzana, Donald A.	3423 Pike Avenue, North Little Rock 72118.	663-4934
RD	Lawson, Mason G.	200 Ridgeway, Little Rock 72205 (Res.)	661-6114
AN	Lawson, Noel W.	4301 West Markham, Little Rock 72201.	664-3904
A	Lee, J. Fred.	Post Office Drawer A, Little Rock 72205.	227-2000
*	Leibovich, Marvin.	9600 West 12th, Little Rock 72201.	664-2466
RHU	Leonard, Donald G.	#1 St. Vincent Circle, Little Rock 72205.	753-9499
FP	Leonard, Garnett J.	3115 JFK Boulevard, North Little Rock 72116.	224-1080
OBG	Leou, Frank J.	1070 Medical Towers Building, Little Rock 72205.	375-0102
ORS	Lester, Joe K.	1518 Main, North Little Rock 72114.	664-4044
PD	Levin, Frederick R.	500 South University, Little Rock 72205.	
#	Levy, Jerome S.	Little Rock	562-8600
GP	Lewellen, John C.	8824 Chicot Road, Little Rock 72209.	227-4434
CD	Lewis, W. Sexton.	700 Medical Towers Building, Little Rock 72205.	661-5000
**GS	Ligon, Ralph E.	4301 West Markham, Little Rock 72201.	227-5240
R	Lile, Henry A.	1100 Medical Towers Building, Little Rock 72205.	664-6705
GS	Lincoln, Ben M.	5326 West Markham, Little Rock 72205.	666-0144
ORS	Lipke, Jay M.	601 North University, Little Rock 72205.	664-4364
U	Logan, Charles W.	500 South University, Little Rock 72205.	666-0144
ORS	Logue, Richard M.	601 North University, Little Rock 72205.	664-5932
IM	Love, Tommy L., Jr.	#1 St. Vincent Circle, Little Rock 72205.	376-4621, Ext. 101
PD	Lowe, Betty A.	804 Wolfe, Little Rock 72201.	661-5135
N	Lucy, Dennis D., Jr.	4301 West Markham, Little Rock 72201.	758-1620
GS	Ludwig, Frank R.	406 West Pershing, North Little Rock 72114.	664-2434
GS	Lyons, Virgle E., Jr.	500 South University, Little Rock 72205.	945-9271
FP	Mallory, George L., Jr.	4511 Lynch Drive, North Little Rock 72117.	224-2424
IM	Malott, Jerry D.	670 Medical Towers Building, Little Rock 72205.	227-2888
PTH	Markland, Gary S.	9600 West 12th, Little Rock 72201.	661-9393
PUD	Mason, William L.	500 South University, Little Rock 72205.	227-6770
IM	Massey, C. Garnett.	1120 Medical Towers Building, Little Rock 72205.	227-5210
A	Matthews, Joe W.	Post Office Box 5675, Little Rock 72215.	661-5903
P	Matthews, Robert R.	4301 West Markham, Slot 568, Little Rock 72201.	227-7596
CD	Meacham, Donald F.	690 Medical Towers Building, Little Rock 72205.	661-5000
**IM	Metrailler, James A.	4301 West Markham, Little Rock 72201.	227-7590
AN	Means, Paul N.	1150 Medical Towers Building, Little Rock 72205.	664-3018
N	Miles, David A.	500 South University, Little Rock 72205.	

Type of Practice	Member's Name	Address	Telephone Number
ORS	Millard, J. Leighton	Post Office Box 5270, Little Rock 72215	224-6900
NEP	Miller, C. Lindsey	350 Medical Towers Building, Little Rock 72205	224-2141
FP	Miller, Forrest B., Jr.	3500 South University, Little Rock 72204	562-4838
FP	Miller, James L.	1308 East Kiehl, Sherwood 72116	835-0703
IM	Miller, Raymond P., Sr.	591B Lee, Little Rock 72205	664-2500
OTO	Milner, E. L.	500 South University, Little Rock 72205	664-4318
ADM	Mitchell, George K.	Post Office Box 2181, Little Rock 72203	378-2133
D	Moore, Burton A.	500 South University, Little Rock 72205	664-4161
U	Moore, J. Malcolm	500 South University, Little Rock 72205	664-4364
GS	Moore, Rex N.	Post Office Box 459, Jacksonville 72076	982-2141
IM	Moore, Robert B.	591B Lee, Little Rock 72205	664-2500
OBG	Morgan, Frank E.	410 West Pershing, North Little Rock 72114	758-1022
GS	Morris, W. Dale	200 Medical Towers Building, Little Rock 72205	224-5666
IM	Morris, Woodbridge E.	5326 West Markham, Little Rock 72205	664-2111
R	Morrison, James R.	500 South University, Little Rock 72205	664-3914
ORS	Morrissey, Raymond T.	804 Wolfe, Little Rock 72201	376-4621
IM	Morse, Jim C.	500 South University, Little Rock 72205	661-9740
GE	Morton, William J.	10001 Lile Drive, Little Rock 72205	227-8000
ORS	Mulhollan, James S.	#1 St. Vincent Circle, Little Rock 72205	661-0350
GP	Murphy, James E.	1800 Maple, North Little Rock 72114	758-1640
P	Murphy, Randolph	4313 West Markham, Little Rock 72201	664-4500
R	McAdoo, Hosea W., Jr.	1100 Medical Towers Building, Little Rock 72205	227-5240
OBG	McCaskill, Melvin R.	500 South University, Little Rock 72205	664-4131
PTH	McConnell, John D.	Post Office Box 5507, Little Rock 72215	664-2593
CDS	McCracken, John D.	1000 Medical Towers Building, Little Rock 72205	227-8180
FP	McCrory, George A.	Post Office Box 805, Jacksonville 72076	982-4551
FP	McGowan, Robert J., Jr.	424 North University, Little Rock 72205	664-4810
OTO	McGrew, Robert N.	1200 Medical Towers Building, Little Rock 72205	227-5050
OBG	McKelvey, K. David	500 South University, Little Rock 72205	664-4131
ORS	McKenzie, Charles N.	802 North University, Little Rock 72205	666-0251
ORS	McKinley, Laurence M.	4301 West Markham, Little Rock 72201	661-5251
OBG	McKnight, C. Allen	800 Medical Towers Building, Little Rock 72205	227-5885
IM	McMillan, James A.	670 Medical Towers Building, Little Rock 72205	224-2424
RD	McMillin, F. Lamar, Sr.	337 Crystal Court, Little Rock 72205 (Res.)	663-3783
GP	Napper, George S.	513 Main, North Little Rock 72114	375-2433
ORS	Nasca, Richard J.	1100 North University, Little Rock 72207	664-7710
R	Nelson, Alvah J., III	500 South University, Little Rock 72205	664-3914
ORS	Nelson, Carl L.	4301 West Markham, Slot 531, Little Rock 72201	661-5251
R	Newbern, David H.	500 South University, Little Rock 72205	664-3914
RD	Nisbett, James M.	517 East 7th, Little Rock 72202 (Res.)	375-2252
ORS	Nixon, Ewing M.	110 Doctors Park Building, Little Rock 72205	227-4150
P	Nolen, Richard R.	4313 West Markham, Little Rock 72201	664-4500
R	Norton, Joseph A.	500 South University, Little Rock 72205	664-3914
PH	Oates, Gordon P.	1700 West 13th Street, Little Rock 72202	376-4511
GP	Ogden, Mahlon D.	4601 Woodlawn, Little Rock 72205	664-0769
P	Oglesby, Walter R.	4313 West Markham, Little Rock 72201	664-4500
IM	O'Neal, Walter H.	9600 West 12th, Little Rock 72201	227-2673
#	Orr, William S., Jr.	Little Rock	
GS	Osam, Patrick N.	320 Doctors Park Building, Little Rock 72205	227-7200
**PD	Otovo, Earnestine W.	4301 West Markham, Little Rock 72201	661-5000
GS	Ozment, Kerry L.	1000 Medical Towers Building, Little Rock 72205	227-8180
PTH	Packmore, D. E.	#1 St. Vincent Circle, Little Rock 72205	661-8534
ADM	Padberg, Frank T.	55 East Erie, Chicago, Illinois 60611	312-664-4050
**AN	Panuska, Jerry	4301 West Markham, Little Rock 72201	661-5000
OT	Pappas, James J.	1200 Medical Towers Building, Little Rock 72205	227-5050
OPH	Parker, J. Mayne	500 South University, Little Rock 72205	666-9632
GS	Parnell, Clifton L.	8500 West Markham, Little Rock 72205	224-1950
PTH	Pehrson, Nils C.	Post Office Box 5507, Little Rock 72215	664-2593
CHP	Peters, John E.	4301 West Markham, Little Rock 72201	661-5800
OPH	Petursson, Gissur J.	4301 West Markham, Little Rock 72201	661-5151
OPH	Phillips, Bert L.	1403 Main, North Little Rock 72114	376-2840
GS	Phipps, Woodrow E.	Post Office Box 13, North Little Rock 72115	374-4821
GS	Pike, John D.	500 South University, Little Rock 72205	664-4321
AN	Pollard, Arlee E.	7400 Rockwood, Little Rock 72207 (Res.)	666-5962
RD	Pool, Chalmers S.	3925 North Lookout, Little Rock 72205 (Res.)	663-9352
PS	Pope, Norton A.	850 Medical Towers Building, Little Rock 72205	227-6464
OTO	Potts, Jerry L.	500 South University, Little Rock 72205	664-9082
GE	Power, Robert C.	409 North University, Little Rock 72205	664-6950
R	Prather, Jerry L.	500 South University, Little Rock 72205	664-3914
CD	Price, Ben O.	500 South University, Little Rock 72205	664-9535
IM	Pringos, Andrew A.	501 Woodlane, Little Rock 72201	375-3231
RD	Proctor, Clark B.	63 Sherrill Heights, Little Rock 72202 (Res.)	663-5269
FP	Puckett, Richard P.	Bloomington, Illinois	
FP	Purdy, Harold D.	6924 Geyer Springs Road, Little Rock 72209	562-1463
IM	Pyle, Hoyte R., Jr.	591B Lee, Little Rock 72205	664-2500
N	Ragsdill, Mary L.	2002 Fendley Drive, North Little Rock 72114	753-5462
PH	Ramsay, Rex C., Jr.	4815 West Markham, Little Rock 72201	661-2111
P	Rankin, Robert A.	4313 West Markham, Little Rock 72201	664-4500
D	Raque, Carl J.	500 South University, Little Rock 72205	664-4161
IM	Rasch, James R.	10001 Lile Drive, Little Rock 72205	227-8000
GS	Read, Raymond C.	300 East Roosevelt Road, Little Rock 72206	372-8361, Ext. 331
RD	Reaves, B. James	4 Edgehill Road, Little Rock 72207 (Res.)	663-1570
PUD	Rector, Nancy F.	890 Medical Towers Building, Little Rock 72205	224-0110
NS	Reding, David L.	750 Medical Towers Building, Little Rock 72205	225-0880
U	Redman, John F.	4301 West Markham, Slot 540, Little Rock 72201	661-5240
OBG	Reed, Ewing C., Jr.	300 Doctors Park Building, Little Rock 72205	227-6377
IM	Reeder, Kathryn I.	Veterans Administration Hospital, North Little Rock 72114	372-8361
P	Reese, William G.	4301 West Markham, Little Rock 72201	661-5266
R	Regnier, George G.	500 South University, Little Rock 72205	664-3914
R	Rhinehart, William J.	500 South University, Little Rock 72205	664-3914
CD	Richards, Mary K.	#1 St. Vincent Circle, Little Rock 72205	664-9040
GS	Richardson, Robert E.	500 South University, Little Rock 72205	664-4321
GP	Riddle, John F., Jr.	8824 Chicot Road, Little Rock 72209	562-8660
**R	Ridout, Robert G.	4301 West Markham, Little Rock 72201	661-5000
FP	Riegler, Nicholas W., Jr.	1024 Scott, Little Rock 72202	375-3326
**TS	Riggs, Orval E.	Dayton, Ohio	
FP	Riley, William H.	3500 South University, Little Rock 72204	562-4833
CHP	Ringdahl, Irving C.	4301 West Markham, Little Rock 72201	661-5810
FP	Ritchie, Elmer J.	1401 West Main, North Little Rock 72114	372-5253
OPH	Roberson, Michael C.	623 Woodlane, Little Rock 72201	374-6491
RHU	Robertson, Fred T.	Memphis, Tennessee	
OBG	Rodgers, C. Dudley	500 South University, Little Rock 72205	664-4131
FP	Rodgers, Charles H.	3500 South University, Little Rock 72204	562-4838
RD	Rodgers, Clyde D.	5223 Hawthorne Road, Little Rock 72207 (Res.)	663-7502
GYN	Roman, Juan J.	#1 St. Vincent Circle, Little Rock 72205	661-0596
ORS	Rooney, Thomas P.	501 West 25th, North Little Rock 72114	758-2046

Type of Practice	Member's Name	Address	Telephone Number
RD.	Rosenbaum, Carl A.	Route 1, Box 274, Scott 72142 (Res.)	961-9228
ORS	Ross, Ashley S.	500 South University, Little Rock 72205	664-8515
GYN	Ross, Robert W.	417 North University, Little Rock 72205	664-8200
ONC	Ross, S. William	#1 St. Vincent Circle, Little Rock 72205	664-6600
PTH	Roth, Sanford I.	4301 West Markham, Little Rock 72201	661-6400
OTO	Rothert, Frances C.	Guatemala City, Guatemala	664-9082
OPH	Rounsaville, Harry L.	500 South University, Little Rock 72205	227-6980
R	Roy, F. Hampton	970 Medical Towers Building, Little Rock 72205	661-5740
OTO	Rubin, Sanford A.	4301 West Markham, Little Rock 72201	758-6560
ORS	Ruggles, Dwayne L.	520 West 26th, North Little Rock 72114	227-4150
FP	Runyan, William A.	110 Doctors Park Building, Little Rock 72205	661-5371
CDS	Saltzman, Ben N.	4301 West Markham, Slot 592, Little Rock 72201	664-6250
ORS	Satterfield, John V.	500 South University, Little Rock 72205	666-0144
FP	Schantz, James L.	601 North University, Little Rock 72205	758-1002
OPH	Schratz, Bruce E.	1801 Maple, North Little Rock 72114	224-4184
IM	Schroeder, George T.	260 Doctors Park Building, Little Rock 72205	227-8000
GS	Schultz, John C.	10001 Lile Drive, Little Rock 72205	227-7200
OPH	Schwander, Howard	320 Doctors Park Building, Little Rock 72205	664-5354
PTH	Schwarz, W. J.	405 North University, Little Rock 72205	661-8539
ORS	Scott, Don I.	#1 St. Vincent Circle, Little Rock 72205	666-2824
OBG	Selakovich, Walter G.	500 South University, Little Rock 72205	664-8003
P	Selby, Micheal L.	500 South University, Little Rock 72205	661-5266
ORS	Shannon, Robert F.	4301 West Markham, Little Rock 72201	227-4150
OBS	Shuffield, H. Elvin	110 Doctors Park Building, Little Rock 72205	224-5500
IM	Simmons, Orman W.	310 Doctors Park Building, Little Rock 72205	375-2801
P	Simpson, N. Henry	441 Donaghey Building, Little Rock 72201	753-5180
PD	Sims, James M.	324 West Pershing, North Little Rock 72114	661-5262
PTH	Sims, Neil H.	4301 West Markham, Little Rock 72201	227-2888
GS	Singleton, L. Gene	9600 West 12th, Little Rock 72205	375-5543
ORS	Sipes, Frank M.	403 Donaghey Building, Little Rock 72201	664-7710
PTH	Slater, John G., Jr.	1100 North University, Little Rock 72207	227-2888
R	Slaven, John E.	7600 West 12th, Little Rock 72201	661-5760
AN	Slayden, John E.	4301 West Markham, Little Rock 72201	227-7590
GYN	Sloan, Fay M.	1150 Medical Towers Building, Little Rock 72205	664-2277
GE	Sloan, James M.	500 South University, Little Rock 72205	664-6980
P	Smart, Douglas F.	409 North University, Little Rock 72205	227-0680
CD	Smith, Aubrey C.	12115 Hinson Road, Little Rock 72212	224-6525
OBS	Smith, David E.	360 Doctors Park Building, Little Rock 72205	224-5500
GP	Smith, Douglas B.	310 Doctors Park Building, Little Rock 72205	778-1111, Ext. 307
OPH	Smith, Huie H.	Benton Services Center Nursing Home, Benton 72158	374-6491
OPH	Smith, James L.	623 Woodlane, Little Rock 72201	666-8627
FP	Smith, Joe E.	7107 West 12th, Little Rock 72204	666-6570
#	Smith, John McCollough	4000 Woodlawn, Little Rock 72205	
GYN	Smith, John W.	Little Rock	664-1527
R	Smith, Mose, III.	5326 West Markham, Little Rock 72205	661-5740
A	Smith, Phillip L.	4301 West Markham, Little Rock 72201	227-5210
GE	Smith, Purcell, Jr.	Post Office Box 5675, Little Rock 72215	664-6980
PD	Smith, Thomas J.	409 North University, Little Rock 72205	664-4117
OTO	Smith, Thomas W.	500 South University, Little Rock 72205	227-4863
RD	Smith, Tom	330 Medical Towers Building, Little Rock 72205	205-342-4845
ORS	Snodgrass, William A., Jr.	3850 B. Rue Maison, Mobile, Alabama 36608 (Res.)	224-6900
RD	Sorrells, R. Barry	Post Office Box 5270, Little Rock 72215	663-6877
PUD	Spitzberg, Irving J.	307 North Cedar, Little Rock 72205 (Res.)	227-8000
GS	Squire, Arthur E., Jr.	10001 Lile Drive, Little Rock 72205	372-8361
IM	Stainton, Robert M.	300 East Roosevelt Road, Little Rock 72206	758-9823
ORS	Stanley, Joe P.	Pike Plaza Center, North Little Rock 72114	664-7710
PH	Steele, William L.	1100 North University, Little Rock 72207	661-2231
ONC	Steinkamp, Ruth C.	4815 West Markham, Little Rock 72201	661-0060
**GS	Sternberg, Jack J.	500 South University, Little Rock 72205	661-5000
TS	Stevenson, Daniel R.	4301 West Markham, Little Rock 72201	664-1521
FP	Stewart, Bill D.	415 North University, Little Rock 72205	663-9415
CD	Stotts, John R.	5905 "R" Street, Little Rock 72207	771-0300
FP	Stout, Kimber M.	2500 McCain Place, North Little Rock 72116	372-1828
IM	Strauss, Alvin W., Jr.	1026 Donaghey Building, Little Rock 72201	372-1828
PD	Strauss, Mark A.	1026 Donaghey Building, Little Rock 72201	758-1530
OBS	Stroope, George F.	516 West Pershing, North Little Rock 72114	224-6300
PS	Struble, R. Harlan	270 Medical Towers Building, Little Rock 72205	664-4383
OBS	Stuckey, James G.	500 South University, Little Rock 72205	224-5500
OTO	Studdard, James D.	310 Doctors Park Building, Little Rock 72205	661-5141
U	Suen, James Y.	4301 West Markham, Little Rock 72201	758-6111
P	Suliman, J. Samir	518 West 26th, North Little Rock 72114	372-8361
ORS	Sundermann, Richard H.	Veterans Administration Hospital, North Little Rock 72114	425-9293
PH	Sward, David T.	920 South Baker, Mountain Home 72653	661-2124
OBS	Swindoll, Bryant S.	4815 West Markham, Little Rock 72201	664-4131
IM	Talley, H. Aubry	500 South University, Little Rock 72205	227-8000
CRS	Taylor, Eugene H.	10001 Lile Drive, Little Rock 72205	664-8466
PD	Tedford, John G.	500 South University, Little Rock 72205	664-4117
GE	Teeter, John A.	500 South University, Little Rock 72205	661-5177
OPH	Texter, E. Clinton	4301 West Markham, Slot 567, Little Rock 72201	664-8445
ORS	Thomas, A. Henry	500 South University, Little Rock 72205	661-0350
GS	Thomas, Jerry L.	#1 St. Vincent Circle, Little Rock 72205	374-5703
CD	Thomas, Peter O.	1310 Cantrell Road, Little Rock 72201	664-5860
OTO	Thompson, A. J.	#1 St. Vincent Circle, Little Rock 72205	664-4381
GS	Thompson, Albert R.	500 South University, Little Rock 72205	372-8361
AN	Thompson, Bernard W.	300 East Roosevelt Road, Little Rock 72206	661-6115
#	Thompson, Dola S.	4301 West Markham, Little Rock 72201	
P	Thompson, Lawrence L.	Little Rock	664-2444
ORS	Thompson, Robert M.	819 University Tower Building, Little Rock 72204	664-7710
ADM	Thompson, Samuel B.	1100 North University, Little Rock 72207	661-3154
FP	Thorn, G. Max	St. Vincent Infirmary, Little Rock 72201	663-9415
R	Tilley, Stephen B.	5905 "R" Street, Little Rock 72207	661-5740
IM	Tirman, Robert M.	4301 West Markham, Little Rock 72201	666-0136
ADM	Tolbert, Louis E. Jr.	500 South University, Little Rock 72205	372-8361, Ext. 291
FP	Towbin, Eugene J.	300 East Roosevelt Road, Little Rock 72206	982-2141
AN	Tracy, Phillip A.	Post Office Box 459, Jacksonville 72076	663-4114
AN	Trussell, Thomas W.	5326 West Markham, Little Rock 72205	227-7590
AN	Tseng, Jyi-Ming	1150 Medical Towers Building, Little Rock 72205	758-4806
AN	Valentine, Robert G.	2800 Percy Machin Drive, North Little Rock 72114	664-3789
GP	Vaughter, W. Roger	3 Ken Circle, Little Rock 72207 (Res.)	664-4810
IM	Wade, William I.	424 North University, Little Rock 72205	664-2500
RD	Wagoner, Jack	5918 Lee, Little Rock 72205	663-2132
GS	Wallis, Charles	5909 Country Club, Little Rock 72207 (Res.)	664-4146
AN	Walt, James R.	500 South University, Little Rock 72205	227-7590
AN	Wang, Jerry S. Y.	1150 Medical Towers Building, Little Rock 72205	
AN	Ward, Joseph P.	1150 Medical Towers Building, Little Rock 72205	

Type of Practice	Member's Name	Address	Telephone Number
PD	Warford, Lloyd R.	500 South University, Little Rock 72205	664-4044
N	Warford, Walton R.	Veterans Administration Hospital, North Little Rock 72114	372-8361, Ext. 691
OPH	Watkins, John G., Jr.	230 Doctors Park Building, Little Rock 72205	227-6797
IM	Watkins, Larry S.	500 South University, Little Rock 72205	661-9740
NS	Watson, Robert	750 Medical Towers Building, Little Rock 72205	225-0880
ORS	Weber, Edward R.	4301 West Markham, Slot 531, Little Rock 72201	661-5251
FP	Weber, James R.	Post Office Box 188, Jacksonville 72076	982-2108
CDS	Weiss, John B.	780 Medical Towers Building, Little Rock 72205	224-1508
NEP	Wellons, James A., Jr.	350 Medical Towers Building, Little Rock 72205	224-2141
IM	Wells, Travis L.	216 Donaghey Building, Little Rock 72201	375-7121
GS	Wenger, Carl E.	330 Doctors Park Building, Little Rock 72205	227-6363
GS	Westbrook, Kent C.	4301 West Markham, Little Rock 72201	661-6175
P	Westerfield, Frank M., Jr.	230 Medical Towers Building, Little Rock 72205	225-0777
OTO	Wetmore, Stephen J.	4301 West Markham, Little Rock 72201	661-5140
FP	White, Oba B.	908 High, Little Rock 72202	374-3609
GPM	White, Paul C., Jr.	4815 West Markham, Little Rock 72201	661-2316
P	Whitehead, R. H., Jr.	4313 West Markham, Little Rock 72201	664-4500, Ext. 211
RD	Wilbur, E. Lloyd	3 Wingate Drive, Little Rock 72205 (Res.)	225-1252
GP	Wilkes, Elbert H.	5322 West Markham, Little Rock 72205	663-4114
CDS	Williams, C. David	200 Medical Towers Building, Little Rock 72205	224-5666
CDS	Williams, G. Doyne	4301 West Markham, Little Rock 72201	661-6175
NS	Williams, Ronald N.	750 Medical Towers Building, Little Rock 72205	225-0880
CD	Wilson, James W. D.	#1 St. Vincent Circle, Little Rock 72205	664-9040
ORS	Wilson, John L.	601 North University, Little Rock 72205	666-0144
OPH	Wilson, R. Sloan	500 South University, Little Rock 72205	664-1104
IM	Wilson, T. Ben	2500 McCain Place, North Little Rock 72116	771-0300
IM	Winn, Charles R., Jr.	240 Doctors Park Building, Little Rock 72205	227-6659
GYN	Wood, Gary P.	500 South University, Little Rock 72205	664-6127
FP	Wortham, Thomas H.	Post Office Box 459, Jacksonville 72076	982-2141
OBG	Wynn, Ralph M.	4301 West Markham, Slot 518, Little Rock 72201	661-5921
PTH	Young, Douglas E.	9600 West 12th, Little Rock 72201	227-2883
U	Young, Jerry M.	410 West 26th, North Little Rock 72114	758-1310
RD	Zell, Lawrence M.	Star Route, Box 201-A, Tucker 72168 (Res.)	842-2216

RANDOLPH COUNTY

FP	Baltz, Albert L.	110 West Broadway, Pocahontas 72455	892-3111
FP	Baltz, M. A.	110 West Broadway, Pocahontas 72455	892-3111
FP	Barre, Hal S.	P. O. Box 585, Pocahontas 72455	892-3371
GP	DeClerk, Thomas B.	204 Thomasville, Pocahontas 72455	892-3344
GP	Scott, William W.	Post Office Box 585, Pocahontas 72455	892-3371
GP	Smith, Norman K.	107 Van Bibber, Pocahontas 72455	892-3389
#	Wyllie, James J.	Pocahontas	

SALINE COUNTY

GP	Ashby, John W.	302 West South, Benton 72015	778-4511
R	Ashby, Robert M.	1215 North Main, Benton 72015	778-6555
GS	Baber, Quin M.	105 McNeil, Benton 72015	778-7435
FP	Bethel, James C.	300 East Roosevelt Road, Little Rock 72206	372-8361, Ext. 300
AN	Bryan, H. David	300 East Roosevelt Road, Little Rock 72206	372-8361
ORS	Cash, Ralph D.	105 McNeil, Benton 72015	778-1388
PM	Coker, S. D.	Benton Services Center, Building 6, Benton 72158	371-1906
PM	Cornwell, Samuel L.	Route 3, Box 225, Benton 72015	371-1906
OBG	Council, R. A., Jr.	910 North East, Benton 72015	778-0426
ORS	Duncan, J. Shelby	105 McNeil, Benton 72015	778-1388
OM	Edmiston, Frank G.	Post Office Box 300, Bauxite 72011	778-3644
PD	Frاندolig, John E.	Post Office Box 97, Bauxite 72011	557-5421, Ext. 230
GP	Hogue, F. Paul	Post Office Box 307, Benton 72015	778-4511
FP	Hood, C. Ted	Post Office Box 399, Benton 72015	778-8264
GP	Izard, Ralph S.	Post Office Box AA, Bryant 72022	847-0289
FP	Jones, Curtis W., Jr.	223 South Market, Benton 72015	778-2722
RD	Jones, Curtis W., Sr.	416 North Main, Benton 72015 (Res.)	778-4795
**	Jumper, Mark W.	Memphis Tennessee	
FP	Kirk, Marvin N., Jr.	Post Office Box 399, Benton 72015	778-8264
GP	Martindale, J. L.	302 West South, Benton 72015	778-4511
P	Mizell, Walter S.	Benton Services Center, Benton 72158	778-1111
A	McClard, Helen P.	Post Office Box 370, Benton 72015	778-0421
	McNichol, Ronald W.	San Antonio, Texas	
AN	Porter, Jim C.	910 North East, Benton 72015	776-0052
FP	Stewart, David L.	Post Office Box 399, Benton 72015	778-8264
GP	Stubbs, Samuel P.	Benton Services Center, Benton 72158	778-1111, Ext. 371
FP	Taggart, S. D.	Post Office Box 399, Benton 72015	778-8264
OBG	Thibault, Frank G., Jr.	910 North East, Benton 72015	847-4125
P	Thompson, John P.	Benton Services Center, Benton 72158	778-1111, Ext. 384
GP	Thorn, H. B., Jr.	302 West South, Benton 72015	778-4511
GS	Viner, Donald L.	105 McNeil, Benton 72015	778-7435
FP	Wright, John D.	321 Short, Benton 72015	776-0603

SCOTT COUNTY

GP	Wright, Harold B.	P.O. Box 249, Waldron 72958	637-3111
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SEBASTIAN COUNTY

PD	Aclin, Richard R.	500 South 16th, Fort Smith 72901	783-1085
RD	Adams, William F.	1100 Murfa Road, Van Buren 72956 (Res.)	474-8668
ORS	Alberty, Joe Paul	300 North Greenwood, Fort Smith 72901	783-5970
EM	Alexander, R. Kent	1311 South "I", Fort Smith 72901	441-4381
GS	Anderson, Paul M.	320 North Greenwood, Fort Smith 72901	782-4066
OBG	Atkins, Jimmie G.	1500 Dodson, Fort Smith 72901	782-2071
GP	Bailey, Charles W.	Post Office Box 426, Greenwood 72936	996-4111
P	Baker, Max A.	2112 South Greenwood, Fort Smith 72901	785-2361
IM	Barker, Robert C., Jr.	1500 Dodson, Fort Smith 72901	782-2071
HEM	Barnes, L. Ford	Post Office Box 3528, Fort Smith 72913	452-2077
CD	Bennett, F. Anthony, Jr.	690 Medical Towers Building, Little Rock 72205	227-7596
AN	Bird, Carolyn W.	Post Office Box 3342, Fort Smith 72913 (Res.)	452-6291
D	Bradford, A. C.	Post Office Box 3528, Fort Smith 72913	452-2077
R	Broadwater, John R.	1500 Dodson, Fort Smith 72901	782-2071
ORS	Brown, Byron L.	100 North 16th, Fort Smith 72901	783-3604
RD	Brown, James A.	6810 South "T", Fort Smith 72903 (Res.)	452-1231
ORS	Buie, James H.	1500 Dodson, Fort Smith 72901	782-2071
FP	Busby, J. David	100 South 14th, Fort Smith 72901	785-2431
PD	Cabell, Ben B.	312 South 16th, Fort Smith 72901	782-7921
R	Cassady, Calvin R.	Post Office Box 1612, Fort Smith 72902	782-2071
P	Chambers, A. Pat	1500 Dodson, Fort Smith 72901	782-2071
P	Chambers, Donald S.	1500 Dodson, Fort Smith 72901	782-2071
AN	Chamblin, Don W.	1500 Dodson, Fort Smith 72901	782-2071

Type of Practice	Member's Name	Address	Telephone Number
TS	Clemmons, Edward E.	522 South 16th, Fort Smith 72901	785-1413
AN	Coffman, Edwin L.	1500 Dodson, Fort Smith 72901	782-2071
NEP	Coleman, Michael D.	1500 Dodson, Fort Smith 72901	782-2071
	Conard, Donna J.	Oklahoma City, Oklahoma	452-5100
EM	Conard, Rey D.	7301 Rogers, Fort Smith 72903	782-2071
CRS	Crigler, Ralph E.	1500 Dodson, Fort Smith 72901	782-2071
NEP	Crittenden, David R.	1500 Dodson, Fort Smith 72901	782-2071
R	Crow, Neil E., Sr.	Post Office Box 1612, Fort Smith 72902	783-6174
R	Culp, William C.	318 North Greenwood, Fort Smith 72901	441-4381
EM	Cunningham, Charles S.	1311 South "I", Fort Smith 72901	785-1447
#	Darnall, Harley C.	Fort Smith	782-2071
PTH	Davenport, Leo	922 Lexington, Fort Smith 72901	782-2071
CD	Deaton, John M.	1500 Dodson, Fort Smith 72901	782-2071
O8G	DeGueurce, James C., III	1500 Dodson, Fort Smith 72901	782-2071
P	Dorzab, Joe H.	1500 Dodson, Fort Smith 72901	782-2071
NS	Dulligan, Michael P.	1500 Dodson, Fort Smith 72901	785-2411
O8G	Ellis, Homer G.	Post Office Box 3507, Fort Smith 72913	782-2071
R	Erickson, Clark A.	1500 Dodson, Fort Smith 72901	782-2071
OPH	Faier, Samuel Z.	1500 Dodson, Fort Smith 72901	782-2071
HEM	Fecher, Dennis R.	1500 Dodson, Fort Smith 72901	782-7261
U	Feder, Frederick P.	720 Lexington, Fort Smith 72901	783-5158
FP	Feild, T. A., III	3600 North "O", Fort Smith 72904	782-8892
OPH	Felker, Gary V.	3000 Rogers, Fort Smith 72901	782-2071
AN	Fisher, Robert D.	1500 Dodson, Fort Smith 72901	783-3166
PD	Floyd, Charles H.	617 South 16th, Fort Smith 72901	782-7261
U	Francis, Darryl R., II	720 Lexington, Fort Smith 72901	782-6022
OTO	Gedosh, Edgar A.	600 South 16th, Fort Smith 72901	782-2071
R	Gill, James A.	Post Office Box 1827, Fort Smith 72902	782-2071
CD	Gilliland, J. Campbell	1500 Dodson, Fort Smith 72901	785-1447
PTH	Girkin, R. Gene	922 Lexington, Fort Smith 72901	452-4900
RD	Goldstein, Davis W.	7809 Horan Drive Fort Smith 72903 (Res.)	782-2071
AN	Goodman, Raymond C., Sr.	1500 Dodson, Fort Smith 72901	452-5100
EM	Graves, Stephen C.	7301 Rogers, Fort Smith 72903	782-2071
N	Griggs, William L., III	1500 Dodson, Fort Smith 72901	782-7261
U	Hamblin, David W.	720 Lexington, Fort Smith 72901	782-2071
ORS	Hathcock, Alfred B.	1500 Dodson, Fort Smith 72901	452-2077
GS	Hawkins, S. Wright	Post Office Box 3528, Fort Smith 72913	785-2604
U	Hewett, Archie L.	600 South 14th, Fort Smith 72901	452-2077
O8G	Hoffman, John D.	Post Office Box 3528, Fort Smith 72913	782-4066
GS	Hoge, Marlin B.	320 North Greenwood, Fort Smith 72901	452-2077
O8G	Holman, James F.	Post Office Box 3528, Fort Smith 72913	452-2077
IM	Holman, William A.	Post Office Box 3528, Fort Smith 72913	452-2077
GS	Holmes, Williams C., Jr.	Post Office Box 3528, Fort Smith 72913	441-4601
ADM	Hornberger, Evans Z., Jr.	1311 South "I", Fort Smith 72901	782-8892
OPH	Hughes, Robert P., Jr.	3000 Rogers, Fort Smith 72901	783-6174
R	Huskison, William T.	318 North Greenwood, Fort Smith 72901	785-2411
O8G	Hyde, Marshall L.	Post Office Box 3507, Fort Smith 72913	785-2655
FP	Ingram, Ralph N.	1120 Lexington, Fort Smith 72901	782-2071
ORS	Irwin, Peter J.	1500 Dodson, Fort Smith 72901	782-2071
GS	Janes, Robert H.	1500 Dodson, Fort Smith 72901	441-4381
EM	Jones, W. Duane	1311 South "I", Fort Smith 72901	785-2411
GYN	Kelsey, J. F.	Post Office Box 3507, Fort Smith 72913	452-3351
RD	Kennedy, Virgil N.	5417 Grand Avenue, Fort Smith 72904 (Res.)	782-2071
IM	Kientz, John L. B., Jr.	1500 Dodson, Fort Smith 72901	782-2071
CD	Klopfenstein, Keith	1500 Dodson, Fort Smith 72901	782-2071
ORS	Knight, W. E.	1500 Dodson, Fort Smith 72901	452-2077
END	Kocher, David B.	Post Office Box 3528, Fort Smith 72913	785-1447
PTH	Koenig, A. S., Jr.	922 Lexington, Fort Smith 72901	785-1447
PTH	Koenig, A. Samuel, III	922 Lexington, Fort Smith 72901	452-2077
O8G	Kradel, R. Paul	Post Office Box 3528, Fort Smith 72913	783-8917
FP	Kramer, Ralph G.	603 Lexington, Fort Smith 72901	783-4832
RD	Krock, Fred H.	3700 Free Ferry Road, Fort Smith 72903 (Res.)	785-2655
FP	Kutait, Kemal E.	1120 Lexington, Fort Smith 72901	782-2071
IM	Lambiotte, Louis O.	1500 Dodson, Fort Smith 72901	782-4983
PTH	Landrum, Annette V.	Post Office Box 1684, Fort Smith 72902	785-4181
GS	Landrum, Samuel E.	522 South 16th, Fort Smith 72901	782-6022
OTO	Lane, Charles S., Jr.	600 South 16th, Fort Smith 72901	782-2071
AN	Lenington, Jerry O.	1500 Dodson, Fort Smith 72901	783-3159
IM	Lewing, Hugh S.	Post Office Box 3006, Fort Smith 72913	782-2071
D	Lewis, John E.	1500 Dodson, Fort Smith 72901	785-2655
FP	Lilly, Ken E.	1120 Lexington, Fort Smith 72901	782-2071
NS	Lockhart, William G.	1500 Dodson, Fort Smith 72901	782-2071
GS	Lockwood, Frank M.	1500 Dodson, Fort Smith 72901	782-2071
ORS	Long, James W.	1500 Dodson, Fort Smith 72901	782-2071
NS	MacDade, Albert D.	1500 Dodson, Fort Smith 72901	452-2077
D	Magness, Jack L., Jr.	Post Office Box 3528, Fort Smith 72913	782-2071
IM	Martin, Art B.	1500 Dodson, Fort Smith 72901	996-4111
FP	Martin, Maurice C. (Rick)	Post Office Box 426, Greenwood 72936	782-2071
O8G	Mason, Joe N.	1500 Dodson, Fort Smith 72901	782-2071
GE	Masri, Hassan M.	1500 Dodson, Fort Smith 72901	783-5158
GP	Meador, Don M.	3600 North "O", Fort Smith 72904	782-2071
R	Mendelsohn, E. A.	1500 Dodson, Fort Smith 72901	782-2071
GS	Mings, Harold H.	1500 Dodson, Fort Smith 72901	782-8892
OPH	Moulton, Everett C., Jr.	3000 Rogers, Fort Smith 72901	782-2071
ORS	Mumme, Marvin E.	1500 Dodson, Fort Smith 72901	782-5323
RD	Murchison, Roary A.	19 Haven Drive, Fort Smith 72901 (Res.)	782-7921
PD	McClain, Merle E.	312 South 16th, Fort Smith 72901	782-4833
GP	McDonald, H. P.	2044 North 29th, Fort Smith 72904	782-8892
OPH	McEwen, Stanley R.	3000 Rogers, Fort Smith 72901	782-2071
IM	McMinimy, D. J.	1500 Dodson, Fort Smith 72901	783-1121
D	Niemann, Jeffrey M.	316 Lexington, Fort Smith 72901	782-2071
	Northum, Charles S.	El Paso, Texas	452-2077
GS	Olson, John D.	1500 Dodson, Fort Smith 72901	783-3165
GE	Paris, Charles H.	Post Office Box 3528, Fort Smith 72913	783-6174
PD	Parker, Joel E., Jr.	617 South 16th, Fort Smith 72901	782-4986
R	Parker, Thomas G.	318 North Greenwood, Fort Smith 72901	782-2071
FP	Parta, H. John	3120 Jenny Lind, Fort Smith 72901	782-3001
CDS	Patrick, Donald L.	1500 Dodson, Fort Smith 72901	785-2411
IM	Pence, Eldon D., Jr.	314 North Greenwood, Fort Smith 72901	782-3001
GYN	Phillips, W. P.	Post Office Box 3507, Fort Smith 72913	785-2655
FP	Pillstrom, Lawrence G.	1120 Lexington, Fort Smith 72901	782-3001
IM	Poe, McDonald, Jr.	314 North Greenwood, Fort Smith 72901	782-2071
CD	Pope, John R.	1500 Dodson, Fort Smith 72901	783-3165
PD	Post, James M., Jr.	617 South 16th, Fort Smith 72901	782-3001
IM	Pradel, Paul A.	314 North Greenwood, Fort Smith 72901	782-3001

Type of Practice	Member's Name	Address	Telephone Number
CD	Prewitt, Taylor A.	Post Office Box 3528, Fort Smith 72913	452-2077
IM	Price, Lawrence C.	Post Office Box 3006, Fort Smith 72913	783-3159
OTO	Raymond, Thomas H.	600 South 16th, Fort Smith 72901	782-6022
N	Reul, Charles G.	1500 Dodson, Fort Smith 72901	782-2071
R	Rogers, Paul L.	318 North Greenwood, Fort Smith 72901	783-6174
FP	Ross, R. W.	1120 Lexington, Fort Smith 72901	785-2655
R	Russell, Rex D.	1500 Dodson, Fort Smith 72901	782-2071
AN	Safranek, Edward J.	216-A North Greenwood, Fort Smith 72901	783-1497
GS	Saviers, Boyd M.	1500 Dodson, Fort Smith 72901	782-2071
AN	Schemel, William H.	216-A North Greenwood, Fort Smith 72901	783-1497
RD	Schirmer, Roy E.	54 Haven Drive, Fort Smith 72901 (Res.)	782-4479
IM	Schwarz, Paul R.	404 South 16th, Fort Smith 72901	783-3159
N	Serrano, Ernest E.	1500 Dodson, Fort Smith 72901	782-2071
GYN	Sherman, Robert L.	Post Office Box 3507, Fort Smith 72913	785-2411
GP	Shermer, J. P.	623 South 21st, Fort Smith 72901	783-1520
ORS	Sherrill, William M., Jr.	1500 Dodson, Fort Smith 72901	782-2071
ORS	Skagerberg, David G.	1500 Dodson, Fort Smith 72901	782-2071
PTH	Smith, Kent	922 Lexington, Fort Smith 72901	785-1447
R	Snider, James R.	1500 Dodson, Fort Smith 72901	782-2071
IM	Staggs, J. David	1500 Dodson, Fort Smith 72901	782-2071
ORS	Stanton, William B.	300 North Greenwood, Fort Smith 72901	783-0225
PUD	Stewart, Jerry R.	Post Office Box 3528, Fort Smith 72913	452-2077
GP	Stewart, J. B.	603 Lexington, Fort Smith 72901	783-8917
PS	Still, Eugene F., II	1500 Dodson, Fort Smith 72901	782-2071
FP	Swena, Richard R.	302 North 13th, Fort Smith 72901	785-2425
OBG	Tate, William B.	1500 Dodson, Fort Smith 72901	782-2071
GP	Thompson, James B.	605 Lexington, Fort Smith 72901	782-6081
RD	Thompson, J. Kenneth	3804 Free Ferry Road, Fort Smith 72903 (Res.)	783-5711
FP	Thompson, Robert J.	605 Lexington, Fort Smith 72901	782-6081
HEM	Turner, William F.	1500 Dodson, Fort Smith 72901	782-2071
D	Vanderpool, Roy E.	Post Office Box 3528, Fort Smith 72913	452-2077
U	Wahman, Gerald E.	1500 Dodson, Fort Smith 72901	782-2071
OPH	Wallace, Kenneth K.	3000 Rogers, Fort Smith 72901	782-8892
PD	Walling, Robert V.	617 South 16th, Fort Smith 72901	783-3165
PD	Watts, John C.	500 South 16th, Fort Smith 72901	783-1085
GS	Weisse, John J.	912 Lexington, Fort Smith 72901	785-2612
HEM	Wells, John D.	Post Office Box 3528, Fort Smith 72913	452-2077
EM	Westbrook, Michael R.	1311 South "I", Fort Smith 72901	441-4381
AN	Westermann, Norman F.	1500 Dodson, Fort Smith 72901	782-2071
IM	Whetsell, D. Wayne	Post Office Box 3528, Fort Smith 72913	452-2077
OBG	Whitaker, T. J., Jr.	1823 Dodson, Fort Smith 72901	782-4929
IM	White, J. Earle	2702 Barry, Fort Smith 72901	783-3126
PH	Whittaker, L. A.	708 Lexington, Fort Smith 72901	782-4961
ORS	Wideman, John W.	300 North Greenwood, Fort Smith 72901	783-0226
GS	Wikman, John H.	1500 Dodson, Fort Smith 72901	782-2071
CDS	Williams, Carl L.	522 South 16th, Fort Smith 72901	785-1413
FP	Williams, John R.	100 South 14th, Fort Smith 72901	785-2431
CD	Williams, Thomas N.	1500 Dodson, Fort Smith 72901	782-2071
OTO	Wills, Paul I.	600 South 16th, Fort Smith 72901	782-6022
U	Wilson, Carl L.	1500 Dodson, Fort Smith 72901	782-2071
U	Wilson, Morton C.	1500 Dodson, Fort Smith 72901	782-2071
U	Wilson, Steven K.	1500 Dodson, Fort Smith 72901	782-2071
GE	Wooddell, W. Jeff	Post Office Box 3528, Fort Smith 72913	452-2077
CDS	Woods, Leon P.	1500 Dodson, Fort Smith 72901	782-2071
#	Woods, William M.	Hackett	
R	Worrell, John A.	318 North Greenwood, Fort Smith 72901	783-6174

SEVIER COUNTY

GS	Balch, James I.	Post Office Box 68, DeQueen 71832	584-3520
FP	Brown, Olie D., Jr.	Post Office Drawer 890, DeQueen 71832	584-2465
FP	Buffington, Mike	Post Office Box 391, DeQueen 71832	584-2022
FP	Daniel, J. Frank	Highway 70 West, DeQueen 71832	584-2022
GP	Dickinson, G. Wallace	Post Office Box 930, DeQueen 71832	584-2022
PTH	Dodd, Nathan L.	Post Office Box 312, DeQueen 71832	584-7111
FP	Jones, Charles N.	Post Office Box 391, DeQueen 71832	584-2022
GS	Norwood, William L.	Town North Professional Building, DeQueen 71832	584-7112
FP	Pullen, Wayne G.	300 East Roosevelt Road, Little Rock 72206	372-8361
R	Williams, W. Curtis	Highway 70 West, DeQueen 71832	584-2022

ST. FRANCIS COUNTY

RD	Chaffin, E. J.	Post Office Box 667, Hughes 72348 (Res.)	339-2398
GP	Cogburn, Harold N.	Post Office Box 4000, Forrest City 72335	633-1425
GP	Collins, E. Morgan, Jr.	Post Office Box 989, Forrest City 72335	633-1952
FP	Collum, Grady R.	Post Office Box 577, Hughes 72348	339-2111
GP	Crawley, Charles E.	Post Office Box 4000, Forrest City 72335	633-1425
GP	Fong, Fun H.	Post Office Box 735, Hughes 72348	339-2373
FP	Hammons, Edward P.	Post Office Box 4000, Forrest City 72335	633-1425
IM	Hamley, Brian	Post Office Box 4000, Forrest City 72335	633-1425
GP	Hollis, Herbert H.	317 North Washington, Forrest City 72335	633-4209
GP	Laney, J. Neal	1740 Lindauer, Forrest City 72335	633-4711
GP	McPhail, George T.	Post Office Box 989, Forrest City 72335	633-1952
GP	Sexton, Giles A.	Post Office Box 4000, Forrest City 72335	633-1425

UNION COUNTY

PD	Baldwin, Ronald L.	209 Thompson, El Dorado 71730	862-4994
ORS	Callaway, James C.	516 West Faulkner, El Dorado 71730	863-6123
FP	Carroll, Peter J.	416 North Newton, El Dorado 71730	862-5573
#	Cathey, A. D.	El Dorado	
FP	Clowney, A. R.	460 West Oak, El Dorado 71730	863-8116
OTO	Cyphers, Charles D.	519 West Faulkner, El Dorado 71730	862-3471
FP	Dunn, Tom L.	Post Office Box 538, Hampton 71744	798-4272
PTH	Duzan, Kenneth R.	443 West Oak, El Dorado 71730	862-1351
PTH	Elliott, Wayne G.	443 West Oak, El Dorado 71730	862-1351
IM	Ellis, Jacob P.	Post Office Box 1957, El Dorado 71730	863-2381
RD	Fitch, Leston E.	38 Meadow Brook Drive, Conway 72032 (Res.)	329-3230
ORS	Giller, W. John, Jr.	516 West Faulkner, El Dorado 71730	863-6123
IM	Hardin, Alvin S.	714 West Faulkner, El Dorado 71730	862-5184
GP	Harper, John W.	425 West Oak, El Dorado 71730	863-5135
ORS	Hartmann, Ernest R.	519 West Grove, El Dorado 71730	863-5146
GS	Henley, Paul G.	700 West Faulkner, El Dorado 71730	863-9542
GP	Hill, Grady E.	427 West Oak, El Dorado 71730	863-7158
PTH	Jennings, R. Duke	443 West Oak, El Dorado 71730	862-1351
GE	Jones, Steve A.	714 West Faulkner, El Dorado 71730	862-5184
R	King, Billy D.	460 West Oak, El Dorado 71730	863-2253

Type of Practice	Member's Name	Address	Telephone-Number
OPH	Landers, Gardner H.	318 Thompson, El Dorado 71730.	862-4216
GS	Menendez, Moises A.	412 North Washington, El Dorado 71730.	862-3411
FP	Moore, Berry L., Jr.	615 West Grove, El Dorado 71730.	863-4185
GS	Moore, John H.	412 North Washington, El Dorado 71730.	862-3411
U	Murfee, Robert M.	619 North Newton, El Dorado 71730.	862-5439
R	McGraw, John P.	700 West Grove, El Dorado 71730.	864-3463
PD	McKinney, J. Schuler.	209 Thompson, El Dorado 71730.	862-4994
R	Parkman, Robert L., Jr.	460 West Oak, El Dorado 71730.	863-2253
AN	Pinkerton, Raymond E.	700 West Grove, El Dorado 71730.	862-6661
#	Pinson, John H., Jr.	El Dorado	862-5184
IM	Pirnie, Allan S.	714 West Faulkner, El Dorado 71730.	863-4101
OBG	Rabie, Fouad M.	445 West Oak, El Dorado 71730.	863-4508
FP	Riley, Warren S.	Post Office Box 1982, El Dorado 71730.	864-3371
R	Roesler, Marvin J.	700 West Grove, El Dorado 71730.	862-4994
PD	Rogers, Henry B.	209 Thompson, El Dorado 71730.	862-5485
D	Sample, Dorothy C.	525 West Faulkner, El Dorado 71730.	862-2253
R	Schultz, Wayne H.	Post Office Box 1998, El Dorado 71730.	862-3411
GS	Scurlock, William R.	412 North Washington, El Dorado 71730.	863-7154
GP	Seale, James E., Jr.	528 West Faulkner, El Dorado 71730.	862-7661
FP	Smith, George W.	704 West Grove, El Dorado 71730.	863-2275
AN	Stevens, Willis M., Jr.	460 West Oak, El Dorado 71730.	862-4994
PD	Sykes, James D.	209 Thompson, El Dorado 71730.	862-5571
FP	Sykes, Robert R.	416-8 North Newton, El Dorado 71730.	862-5403
OBG	Thibault, Frank G., Sr.	416 North Newton, El Dorado 71730.	862-3412
GS	Tommey, C. E.	412 North Washington, El Dorado 71730.	863-6157
OBG	Turnbow, R. L.	427 West Oak, El Dorado 71730.	725-3471
FP	Warren, George W.	Post Office Box W, Smackover 71762.	862-5184
IM	Weedman, James B.	714 West Faulkner, El Dorado 71730.	862-4221
GS	Wharton, Joseph B., Jr.	317 Thompson, El Dorado 71730.	862-4216
OPH	Williamson, John R.	318 Thompson, El Dorado 71730.	862-5184
IM	Wilson, Larkin M.	714 West Faulkner, El Dorado 71730.	862-5352
OPH	Wilson, Paul H.	514 West Faulkner, El Dorado 71730.	862-7918
OTO	Wise, Jean F.	306 Thompson, El Dorado 71730.	862-3411
GS	Yocum, David M., Jr.	412 North Washington, El Dorado 71730.	
VAN BUREN COUNTY			
GP	Hall, John A.	Post Office Box 310, Clinton 72031.	745-2111
GP	Pearce, Charles G.	Post Office Box 51, Clinton 72031.	745-2412
FP	Read, Paul S.	Route 2, Box 175-8, Fairfield Bay 72088.	884-3377
FP	Stuteville, Orion H.	Post Office Box 397, Leslie 72645.	447-2711
WASHINGTON COUNTY			
**FP	Adkins, Johnny P.	241 West Spring, Fayetteville 72701.	521-8260
D	Albright, Spencer D., III.	1925 Green Acres Road, Fayetteville 72701.	443-3413
GP	Applegate, C. Stanley	220 Meadow Avenue, Springdale 72764.	751-4637
ORS	Arnold, James A.	Post Office Box 1608, Fayetteville 72701.	521-2752
RD	Baggett, Jeff J.	102 East Bush, Prairie Grove 72753 (Res.)	846-2312
FP	Baker, Donald B.	241 West Spring, Fayetteville 72701.	521-8260
FP	Benjamin, George H.	304 South Maxwell, Siloam Springs 72761.	524-3141
FP	Box, Ivan H.	Post Office Box E, Huntsville 72740.	738-2115
PTH	Boyce, John M.	607 West Maple, Springdale 72764.	751-5711
RD	Boyer, H. L.	107 North Star, Lincoln 72744 (Res.)	824-3203
U	Brandon, H. B.	Route 9, Box 219, Fayetteville 72701.	521-8980
RD	Brizzolara, Charles M.	5512 South Grandview, Little Rock 72207 (Res.)	666-5977
U	Brooks, Walter Ely	Route 9, Box 219, Fayetteville 72701.	521-8980
**OPH	Brown, Craig J.	Columbia, Missouri	442-2184
**PD	Brown, Patricia R.	2583 Elizabeth, Fayetteville 72701 (Res.)	664-4500
P	Brown, Spencer H.	4313 West Markham, Little Rock 72201.	521-3600
FP	Buckley, Carie D., Jr.	767 West North, Fayetteville 72701.	443-3471
PD	Burnside, Wade W.	207 East Dickson, Fayetteville 72701.	521-8200
IM	Butler, G. Harrison	675 Lollar Lane, Fayetteville 72701.	756-0610
FP	Capps, James A., Jr.	1215 South Thompson, Springdale 72764.	521-3050
AN	Chester, Robert L.	660 Lollar Lane, Fayetteville 72701.	521-7657
RD	Clark, LeMon	1679 Elmwood, Fayetteville 72701 (Res.)	521-8260
**FP	Clark, Stephen J.	241 West Spring, Fayetteville 72701.	521-8260
**FP	Clemens, R. Dale	241 West Spring, Fayetteville 72701.	521-2752
ORS	Coker, Tom P.	Post Office Box 1608, Fayetteville 72701.	521-4433
OBG	Cole, George R.	740 Lollar Lane, Fayetteville 72701.	442-5377
OBG	Councille, Clifford C., Jr.	207 East Dickson, Fayetteville 72701.	521-1238
OTO	Crocker, Thermon R.	4255 Venetian Lane, Fayetteville 72701.	751-6284
OBG	DeSandre, Frank A.	606 South Young, Springdale 72764.	443-3387
AN	Dodson, Charles D.	946 California, Fayetteville 72701 (Res.)	756-6161
FP	Dorman, John W.	Post Office Box 689, Springdale 72764.	521-8200
IM	Duncan, Philip E.	675 Lollar Lane, Fayetteville 72701.	521-1221
P	Edmisten, Jack	Post Office Box 1108, Fayetteville 72701.	751-0492
R	Edmondson, Charles T.	Route 3, Box 253, Springdale 72764 (Res.)	253-9746
FP	Etherington, Robert A.	41 Kingshighway, Eureka Springs 72632.	443-3491
P	Finch, Stephen B.	530 North College, Fayetteville 72701.	521-3363
OTO	Fincher, G. Glen	2100 Green Acres Road, Fayetteville 72701.	443-5291
FP	Gardner, Buford M.	Post Office Box 730, Fayetteville 72701.	521-2525
D	Ginger, John D.	102 West Dickson, Fayetteville 72701.	524-4141
R	Greenhaw, James J.	205 East Jefferson, Siloam Springs 72761.	521-8200
IM	Hall, Joe B.	675 Lollar Lane, Fayetteville 72701.	521-6480
R	Harris, Murray T.	Post Office Box 1286, Fayetteville 72701.	521-2752
ORS	Harris, W. Duke	Post Office Box 1608, Fayetteville 72701.	442-5377
OBG	Harrison, William F.	207 East Dickson, Fayetteville 72701.	521-3600
FP	Hart, Hamilton R.	Post Office Box 1488, Fayetteville 72701.	442-4421
RD	Hathcock, P. Loyce	909 Hall Avenue, Fayetteville 72701 (Res.)	443-3471
PD	Haynes, James E.	207 East Dickson, Fayetteville 72701.	521-2754
ORS	Heinzelmann, Peter R.	Post Office Box 1608, Fayetteville 72701.	442-5227
OPH	Henry, L. Murphey	Post Office Box 1267, Fayetteville 72701.	442-5227
OPH	Henry, Louise M.	Post Office Box 1267, Fayetteville 72701.	442-5227
OPH	Henry, Morris M.	Post Office Box 1727, Fayetteville 72701.	521-8200
IM	Higginbotham, Hugh B.	675 Lollar Lane, Fayetteville 72701.	521-3386
ONC	Hoge, Arthur F.	2100 Green Acres Road, Fayetteville 72701.	524-3141
FP	Huskings, James D.	304 South Maxwell, Siloam Springs 72761.	524-3141
OBG	Hutchinson, Harry T.	304 South Maxwell, Siloam Springs 72761.	521-3363
A	Hutson, Martha F.	2100 Green Acres Road, Fayetteville 72701.	442-5482
P	Jarvis, Fred D., Jr.	Post Office Box 1185, Fayetteville 72701.	443-5245
NS	Johnson, Jorge H.	3000 Market, Fayetteville 72701.	751-6993
P	Jones, Edwin C.	401 West Emma, Springdale 72764.	
#	Kaylor, Coy C.	Fayetteville	253-9746
FP	Keagy, Charles L.	41 Kingshighway, Eureka Springs 72632.	521-8260
**FP	Kendrick, William C.	241 West Spring, Fayetteville 72701.	

Type of Practice	Member's Name	Address	Telephone Number
A	Koehn, Laura J.	2100 Green Acres Road, Fayetteville 72701	521-3363
PD	Lawson, Wilbur G.	207 East Dickson, Fayetteville 72701	442-6226
RD	Lesh, Ruth E.	356 North Washington, Fayetteville 72701 (Res.)	442-2163
RD	Lesh, Vincent O.	Route 6, Box 273, Rogers 72756 (Res.)	925-1989
PTH	Lifton, Eva W.	1125 North College, Fayetteville 72701	442-1012
OBG	Lushbaugh, Harmon	740 Lollar Lane, Fayetteville 72701	521-4433
FP	Markland, Linda A.	241 West Spring, Fayetteville 72701	521-8260
FP	Martin, James D.	3000 Market, Fayetteville 72701	521-8401
IM	Martin, William C.	675 Lollar Lane, Fayetteville 72701	521-8203
OBG	Mashburn, James D.	207 East Dickson, Fayetteville 72701	442-5377
TS	Miller, Charles H.	1749 North College, Box A, Fayetteville 72701	521-3300
R	Mills, William C., III	Post Office Box 1286, Fayetteville 72701	521-6480
IM	Moore, Arthur F.	675 Lollar Lane Fayetteville 72701	521-8200
ORS	Moore, James F.	Post Office Box 1608, Fayetteville 72701	521-2752
GP	Moose, John L.	304 South Maxwell, Siloam Springs 72761	524-3141
GP	Morgan, Tad M.	Quandt and Young Streets, Springdale 72764	751-9236
GS	Murry, J. Warren	1749 North College Box A, Fayetteville 72701	521-3300
R	McAlister, Joseph H., Sr.	Route 4, Box 188, Huntsville 72740	664-2735
RD	McAllister, Max F.	Post Office Box 1065, Fayetteville 72701 (Res.)	442-6522
OPH	McDonald, James E., II	461 East Township Road, Fayetteville 72701	521-2555
GP	McEvoy, Francis E.	803 Quandt Springdale 72764	751-9236
GS	McNair, William R., Jr.	1845-B Green Acres Road, Fayetteville 72701	521-1484
PTH	Nettleship, Mae B.	Post Office Box 817, Fayetteville 72701	442-1012
IM	Painter, Monroe B.	675 Lollar Lane, Fayetteville 72701	521-8200
OPH	Parker, Joe C.	700 South Young, Springdale 72764	751-1028
FP	Parker, Lee B., Jr.	241 West Spring, Fayetteville 72701	521-8260
FP	Patrick, James K.	241 West Spring Fayetteville 72701	521-8260
U	Pickett, James D.	Route 9, Box 219, Fayetteville 72701	521-8980
R	Platt, Michael R.	Post Office Box 86 Gravette 72736 (Res.)	787-5425
GP	Power, John R.	220 Meadow Avenue, Springdale 72764	751-4637
**FP	Price, Joel A.	241 West Spring, Fayetteville 72701	521-8260
**FP	Proffitt, Danny L.	241 West Spring, Fayetteville 72701	521-8260
FP	Puckett, Billy J.	304 South Maxwell, Siloam Springs 72761	524-3141
GYN	Rabon, Nancy A.	Evelyn Hills Shopping Center, Fayetteville 72701	442-8261
R	Riddick, Earl B., Jr.	1617 North College, Fayetteville 72701	521-6480
GS	Rolufs, Lloyd S.	41 Kinoshighway, Eureka Springs 72632	253-9746
OBG	Romine, James C.	740 Lollar Lane, Fayetteville 72701	521-4433
FP	Rouse, Joe P.	Post Office Box 1408, Fayetteville 72701	521-3600
NS	Runnels, Vincent B.	Post Office Box 1608, Fayetteville 72701	521-2752
OPH	Sharp, James D.	102 West Dickson, Fayetteville 72701	521-4949
RD	Siegel, Lawrence H.	233 Oakwood, Fayetteville 72701 (Res.)	442-2083
OPH	Singleton, E. Mitchell	Post Office Box 1343 Fayetteville 72701	521-4843
IM	Sisco, Charles P.	Post Office Box 65, Springdale 72764	751-4579
#	Sisco, Friedman	Springdale	
GP	Smith, Austin C.	Post Office Box E, Huntsville 72740	738-2115
N	Smith, Bob W.	Post Office Box 1827, Fayetteville 72701	442-4070
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	April 20-23, 1980	Arlington Hotel, Hot Springs
	April 26-29, 1981	Camelot Inn, Little Rock
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Medicine and the Law

Medical Staff Liability for the Acts of an Incompetent Physician

Fred Spies, J.D.*, and Alma Houston, M.D.**

There are many situations in which a physician can be held liable for the negligent acts of another physician. Liability can be shared in certain business arrangements as in a partnership or in an employer-employee relationship. Physicians can be held liable for failing to take ordinary care in selecting a competent physician when they refer a patient.

Private hospitals, and their medical staffs, have not been held liable for malpractice of staff physicians who are not employees of the hospital. *Corpus Juris Secundum*, a legal encyclopedia, states "A private hospital is not responsible for any default on the part of a physician or surgeon who practices his profession as an independent agent, and where a patient employs a physician or surgeon not in the employ of the hospital, the hospital is not liable for his negligence."¹ The general rule of law is that the employers of an independent contractor are not liable for the negligent acts of the contractor committed in the course of the work he is engaged to perform.²

A hospital and its medical staff can be held liable for its own negligence in failing to exercise due care in selecting a physician for the medical staff. Hospitals may be held liable for negligence if the hospital permits its facilities to be used by a licensed person committing an act of malpractice with the knowledge of the hospital or on circumstances putting it on notice of such wrongful act.³ The knowledge that a physician is incompetent is sufficient notice to extend liability to a hospital for the malpractice of the incompetent physician.

In *Hull v. North Valley Hospital*, it was held that a private, non-profit hospital was not liable for the malpractice of an unpaid staff physician.

The court held that, although the hospital had a duty to act when its medical staff advised it that a physician is incompetent, the determination of incompetency must be made by skilled medical personnel and not by the hospital administrators. In this case, the medical personnel had not communicated any indication of incompetency on the part of the physician to the proper hospital authorities.⁴ If a duty to act was present and the physician would not voluntarily comply (with limited privileges or with resignation from the staff), then the requirement to act would be satisfied with a formal complaint to the Board of Medical Examiners. A hospital cannot, by itself, limit a medical license under most licensing statutes.⁵

In a later case, the same court held in *North Valley Hospital v. Kaufman* that the hospital had a right to deny renewal of hospital privileges to the physician involved in the earlier case, and that his licensing by the state was an entirely separate matter.⁶

In *Corleto v. Shore Memorial Hospital*, a medical malpractice suit was brought against a doctor for performing abdominal surgery on a patient who did not recover, but later died. A claim was brought against the hospital, its administrator, its board of directors, and the medical staff, on the ground that they all knew or should have known that the doctor was incompetent to perform the particular surgical procedure, and that they, nevertheless, allowed him to perform the surgery and to remain on the case when the situation was obviously beyond his control.⁷ The hospital, administrator, board of directors, and the medical staff moved to dismiss the complaint. The court held that the plaintiff had a cause of action against those defendants, and that the defendants were charged with wrongdoing separate and distinct from that of the defendant doctor.

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even though the plaintiff would have to prove the doctor negligent to prevail against the other defendants.⁸

The theory of the cause of action is that the defendants, by their negligence, created a situation in which the natural and probable consequence was injury to the patient. Liability results from the wrongful act of placing an incompetent in a position to do harm.⁹

In the *Corleto* case, the New Jersey Hospital Association filed an amicus curiae brief in which it contended that matters such as the competence of physicians are purely internal affairs of the hospital and any such determination was not susceptible of being challenged in a court of law.¹⁰ The argument was made that to allow this lawsuit would affect the composition of medical staffs and hospital boards, would lead to increased insurance premiums, and would have a detrimental impact on health care in the state. The court held that an injured party has a common law right to sue and an immunity would not be lightly granted. The court felt that the public policy arguments above were speculative, and that the granting of immunity should come from the legislature, not from the courts.

The medical staff tried to claim that it was not amenable to suit as an unincorporated association under New Jersey statutes. That argument was held without merit under remedial legislation permitting suits against unincorporated associations. Also, all 141 physicians could have been named individually in the suit.¹¹

The final result of the *Corleto* case, whether the defendants were found to be negligent, has not been published. Even if the doctor in the case was found to be negligent, the mere fact that the injury results from a selected physician's

negligence does not prove that there was negligence in the selection of the physician for the staff.¹² However, this case illustrates that an injured party can sue a hospital and its medical staff for damage for injuries caused by the malpractice of an incompetent physician, and attempt to show negligence if the medical staff and hospital had knowledge of the physician's incompetence. The case sets a precedent for future litigation.

Physicians can no longer ignore or shield incompetent colleagues. Whether the cause of incompetence is physical or mental illness, alcohol or drug abuse, lack of sufficient training or skill, not keeping abreast of new developments in one's field, or refusing to refer cases which are beyond one's competence to manage, physicians must insist that incompetent physicians remedy the situation. If that cannot be done, measures such as restricting or denying staff privileges should be taken. Any other course of action may leave a medical staff and their hospital open to a liability suit.

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Advances in Tubal Surgery

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Recently there has been a resurgence of interest in correction of the damaged oviduct to restore fertility. Liberal attitudes toward abortion have caused a reduction in the number of babies available for adoption. Couples unable to conceive because of previous tubal infection or previous surgical sterilization now constitute the largest group of patients who are candidates for surgical repair of the fallopian tube. Other candidates are those with endometriosis, myomas, previous pelvic surgery or ectopic pregnancies and those with other abdominal infections with resultant scarring and/or distortion of the pelvic structures. Use of microsurgical techniques utilizing the operating microscope or loops, newer suture materials, and principles of intraoperative and postoperative care have improved surgical results. A survey by Greenhill in 1937 disclosed that the average gynecologist had poor success with tubal surgery due to the lack of sufficient training.¹ Yet today resident training allows little time for the development of these specialized techniques, and the busy gynecologist often does not have sufficient demand or time to devote to the mastery of surgical repair of the tube.

Prior to attempting surgical repair of infertility a thorough evaluation of both parties is essential. Ideally, fallopian tube damage should be the only factor contributing to infertility in a given couple. A careful history should be obtained from the wife with emphasis on normal menstrual interval and flow associated with premenstrual symptoms of cramps, weight gain and breast soreness that connote ovulation. Documentation of ovulation should be obtained with the basal body temperature graph, progesterone assay and a properly timed luteal phase endometrial biopsy. Evaluation of the husband is usually sufficient by a semen analysis with documentation of a normal count, 40 million/cc in a masterbated specimen with 60% normal forms and 60% motility.² More importantly, the post coital examination done at midcycle tests the *in vivo* activity of semen in the cervical mucus and values of ten or greater per high power field correlates well with reproductive potential.³ Pelvic findings such as tenderness, masses, or nodularity should be noted for future reference and

findings such as vaginitis and cervicitis should be treated.

Evaluation of the tubal factor should be done by hysterosalpingogram performed during the week just after cessation of menses. The Rubin's test utilizing CO₂ gives gross information relative to the presence or lack of tubal patency but may be positive with one tube patient or with peritubular adhesions so false positives may result. Hysterosalpingogram with a water soluble media (Sinograffin) is preferred because it flows readily, is ordinarily painless, and there is lessened chance of granuloma formation as in the case with oil dyes. The procedure can be completed in a few minutes without the necessity for follow up films. A properly performed hysterosalpingogram done under fluoroscopic control gives information regarding the normality of the internal uterine contour, localizes tubal obstruction, shows distal tubal rugations, and is suggestive of tubal adhesions when abnormal spill patterns are encountered. Certain abnormal patterns may be diagnostic as with salpingitis isthmica nodosa or tuberculosis of the tubes.

Following documentation of tubal abnormality by hysterosalpingogram endoscopy by laparoscopy is indicated. Ordinarily one should not perform endoscopy unless he is trained to do the actual



FIGURE 1.

Hysterosalpingogram of patient with right cornual obstruction and a left hydrosalpinx. Rugal pattern of distal fimbria is a favorable prognostic sign.

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surgery as documentation of tubal abnormalities is better done by the person who will perform the surgery as he can discuss treatment with a more informed judgment of prognosis. Because the lack of correlation between hysterosalpingogram and laparoscopy findings may be as high as 50%, laparoscopy is indicated whether or not the hysterosalpingogram discloses abnormalities when other findings are normal.⁴ Dual puncture laparoscopy is preferred with the second puncture at or below the level of the pubic hairline allowing for insertion of a probe for manipulation and palpation of pelvic viscera. During the procedure a dilute solution of indigo carmine dye is injected through the cervical cannula and its flow into and exit from the tubes observed.

At the conclusion of the procedure a sketch of the pelvic findings should be made rather than relying on the operative note in the patient's permanent record in which some findings may be omitted or difficult to interpret later. The location of filmy or dense adhesions should be carefully located since the latter are difficult to separate without considerable bleeding and subsequent reaccumulation especially when they are between the tube and ovary. A sketch also allows accurate recording of findings for classification of repair procedures, and is useful in discussing surgical repair and prognosis with the patient and her husband. Photographs may be utilized but are often difficult to interpret and frequently do not give as accurate a view later as that obtained during performance of the procedure.

Four basic operative procedures are utilized in tubal surgery: 1. Lysis of peritubal adhesions including those between the tube and ovary thus restoring the normal tubo-ovarian pickup mechanism. 2. Salpingoplasty to open the occluded ostium, consisting of either fimbriolysis which is the separation of partially occluded fimbria leaving them almost normal, or salpingostomy which is the opening of a sealed oviduct as with a hydrosalpinx. 3. Midsegment resection and anastomosis including cornual anastomosis. 4. Tubal implantation. Combinations of the above procedures may be necessary, especially with lysis of peritubal adhesions and salpingostomy.

Inflammation, endometriosis, and previous pelvic surgery are the leading causes of peritubular and periovarian adhesions. Reaccumulation of these adhesions postop is one of the primary causes of surgical failure. For this reason attempts are made to retard adhesion formation.

Since blunt dissection leads to denuded areas where reaccumulation can occur, sharp dissection is used to divide all adhesions leaving as smooth a surface as possible. Any denuded areas should have smooth surfaces restored with the transposition of peritoneum utilizing interrupted 5-0 Dexon sutures or the use of omental grafts. To retard adhesion formation, the author utilizes the dexamethasone-promethazine regimen reported in a collaborative study with improved fertility rates.⁵ Antihistamines reduce the small vessel permeability and exudate formation and corticosteroids decrease fibroplasia.⁶ Separate syringes of dexamethasone 20 mgm and Phenergan 25 mgm are given intramuscularly two to three hours prior to surgery and continued every four hours postop for 12 doses. An equal amount is instilled into the pelvic cavity at the end of the procedure through a small straight catheter. Separate syringes and flushing each solution into the peritoneum is practiced to prevent precipitate formation when the two are mixed. In a series of over 30 patients with tuboplasty at the Medical University of South Carolina, there were no difficulties with wound healing nor adrenal suppression problems. Broad spectrum antibiotics were also utilized intraoperatively and postop, and no febrile morbidity was observed in this group. With evidence of acute inflammation judged by tenderness with an elevated sedimentation rate surgery is deferred until the patient has been treated with antibiotics and these findings become normal.

In patients who have undergone salpingolysis only, pregnancy has been reported in 31 to 61% of patients.⁷ Term pregnancies in this group have occurred in 29 to 47%. Ectopic pregnancies in these patients average about four percent. Generally, the incidence of ectopic pregnancies

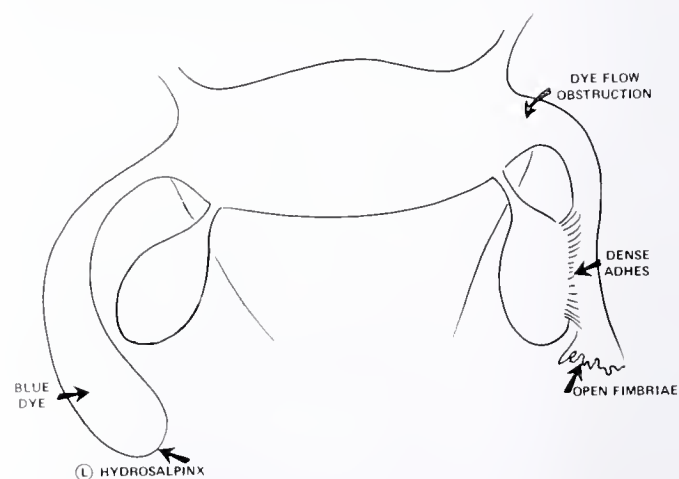


FIGURE 2.
Sketch of laparoscopic findings of same patient illustrated in Figure 1.

after any type of tuboplasty is significant, so patients need to be advised of this possibility and aware of the signs and symptoms.

Fimbriolysis is the procedure utilized to correct partial fimbrial closure. Operative principles outlined above are followed and the procedure is combined with salpingolysis if indicated. Careful inspection of the end of the tube is done to locate the opening. Following this a small mosquito clamp is inserted and the opening gently spread. If, at this point, a normal flower appearance is not obtained the fimbrial opening can be stabilized by radial interrupted 7-0 polyglycolic acid (Vicryl) or nylon sutures attaching the most distal fimbria to the ampullary serosa. Palmer has reported a pregnancy rate following this procedure of 50% with 40% of pregnancies continuing to term.⁸ This procedure would be required in only a small percentage of patients who are candidates for tuboplasty.

One may observe tubal phimosis at the time of laparoscopy which has effectively reduced the ampullary portion of the tube and resulted in relative immobility of the fimbria. In this case the tubal ostium remains open. Hydrotubation has been utilized in the past as a method of treating this condition and some pregnancies may result. Gomel now favors the laparoscopic approach to this problem and reports a 57% intrauterine pregnancy rate⁹. Three puncture sites are utilized for the procedure—the umbilicus, and R and L McBurney's points. The tube is stabilized with Palmer grasping forceps at the ampullary-isthmic area and the 3 mm alligator grasping forceps are utilized to dilate the tubal ostium.

Microsurgical approach to tuboplasty utilizes either loops or the operating microscope. Loops are comfortable to wear and give a working distance of approximately 33 cm with four power magnification. The magnification helps with placement of sutures and avoidance of blood vessels when incision is made into the tube. The operating microscope is essentially a colposcope with a longer focal length. Stereovision and magnification variance of from four to 20 power are chief advantages. Ideally it should produce a wide field of vision, having tiltability and a comfortable working distance from the operative field to the lens. Working distance is determined by the objectives used with either 300 or 400 mm being sufficient. The eyepieces must be adjusted

prior to surgery which is accomplished by setting one eyepiece on zero at the highest power setting, and adjusting the opposite so both are in focus. The use of ophthalmologic instruments is essential in handling and tying the delicate suture materials. Considerable practice is necessary with instruments and laboratory animals if possible due to the initial difficulty of working at extreme magnification.

Once the abdominal cavity has been opened the pelvic contents must be stabilized. The use of a lap sponge soaked in hydrocortisone and positioned in the cul de sac works well and avoids tissue damage of large sutures and clamps. All surfaces and especially those in the surgical field are continuously irrigated with saline. A small bulb syringe with a 21 gauge needle is useful in irrigating the working area to remove clots and identifying bleeding points so they may be coagulated. Bipolar microcautery is helpful in reducing spread of current through adjacent tissues and with good visualization can be applied directly to the bleeding point.

Salpingostomy is considered to be the form of tubal plastic surgery giving the poorest results. Swolin's technique offers the best results reported with a 36% live birth rate.¹⁰ He utilizes either an operating microscope or loops and a micro-needle for thermocautery. The tube is opened until the mucosa appears but resection of a large tube is avoided. The tube is then visualized from the inside where the mucosa and blood vessels can be seen. Multiple small incisions are made



FIGURE 3.
End to end anastomosis technique joining tubal segments of different diameters.

with the needle at the most suitable points with resultant opening of the tube like a flower. This means time for this type of surgery was more than three and one-half hours, and is not significantly different from the operator's own experience. Insertion of small fiberoptic light source into the tube helps to identify the coiled fimbrial blood vessels so they can be avoided. Stabilization of the fimbria can be obtained by suture to the ampullary serosa with 7-0 or 8-0 PGA or nylon sutures.

Tubal reanastomosis by midsegment reconstruction is the procedure ordinarily utilized for reversal of previous sterilization. Both segments are incised into the mesosalpinx to gain mobility of proximal and distal ends. Patency of both segments is documented by transuterine lavage of dilute indigo carmine dye utilizing a cervical occlusion clamp (Buxton type) and reverse hydropertubation from the distal segment. Often a discrepancy in tubal size is apparent between the ampullary and isthmic segments. Accommodation for this can be obtained by a three or four mm incision of the antimesenteric border of the isthmic segment. Four 7-0 or 8-0 sutures are then utilized at six, three, nine and 12 o'clock. The sutures at six and 12 o'clock include the muscularis only and knot placement is away from the mucosa. Those at three and nine o'clock begin and end on the exterior of the distal segment passing through the muscularis and mucosa and include the muscularis and mucosa of the proximal segment. Tying of these latter sutures established good contact between the mucosa of both tubes. The serosa of the tubes and mesosalpinx is then approximated with similar sutures. Splints are not utilized because of the chance of mucosal damage, and poor pregnancy rate as reported by Winston.¹¹ At the completion of anastomosis transuterine lavage should disclose good distal spill without leakage at the site of anastomosis. Utilizing this technique, pregnancy rates as high as 44% have been reported.⁹

Cornual occlusion may exist in the intramural portion of the tubes or at the proximal isthmic portion. The preoperative hysterosalpingogram is essential in locating the site of obstruction. Laparoscopy documents normal appearance of the remaining tube and fimbria because if a hydrosalpinx were to co-exist little chance of success would be possible with repair of two areas of the same tube.

Uterotubal implantation is the procedure for intramural occlusion. The tube is incised as near as possible to its junction to the uterus. Several incisions may be necessary to locate the patent mucosa, established by reverse hydropertubation. The reamer (cork borer) is utilized to remove the cornual portion and establish a canal into the endometrium. The distal segment is then divided for four to five mm on its mesenteric and antimesenteric borders. A 5-0 Vicryl or nylon suture is then passed through the entire thickness of the divided segments and a large needle then passes both ends of the suture into the endometrium and exits from the uterus about 15 mm from the edge of the created canal. The sutures from one segment are brought through the anterior uterine surface with the opposite through the posterior surface. Tying these sutures anchors the tubal flaps to the endometrium. The uterine and tubal serosa is then approximated with 7-0 or 8-0 sutures. Splints are not necessary if the above technique is adhered to. If desired, a splint may be utilized using a length of No. 2 nylon with a large coiled segment in the uterus. The splint is removed through the cervix on the third postoperative day. The tendency now, however, is to avoid a splint but this is a judgment of the operator. Intrauterine pregnancy results following this procedure approach 45%.

A new technique for isthmic obstruction is that of cornual-isthmic (tubouterine) anastomosis. The tube is divided at its insertion into the uterus and retrograde hydropertubation is used to verify the lumen. Transuterine lavage is performed while one mm serial slices are made and the patent lumen is identified. The muscularis is then approximated with 7-0 or 8-0 suture over a No. 2 nylon suture which has been fed into the uterus. The defects in the mesosalpinx and serosal surfaces are then repaired. Gomel has reported a 54% intrauterine pregnancy rate utilizing the above technique.⁹ Again the splint is removed on the third postoperative day.

Early hydropertubation employed in the postoperative period for salpingostomy has been shown effective by Grant.¹² The author utilizes a solution of 100 mgm Solucortef in 20 cc saline which is used twice prior to discharge of the patient, and during the early follicular phase of the next two cycles. This is felt to be valuable in washing accumulated debris from the fimbria.

Verification of patency after any procedure is

usually done at three months after surgery by hysterosalpingogram. An alternative approach which has been found useful for patients with salpingostomy and salpingolysis is postoperative laparoscopy.¹³ It was originally proposed by Swolin and the present and other authors agree to the value. When done at four to eight weeks after surgery gently manipulation of the tube and ovary allows separation of adhesions without bleeding. Regeneration of fimbria can be viewed at this time and is interpreted as indicative of a favorable prognosis. Unfortunately patency rate is always higher than the pregnancy rate, probably due to unknown mucosal damage.

Hoods have been utilized in the past to protect fimbriae during the healing process. Silastic hoods were first employed by Mulligan, but required a second operation for removal.¹⁴ A fibrous exudate had to then be removed from around the tube and hood which again necessitated meticulous dissection. Recently, a newer type of collapsible hood has been developed through which hydrotubation may be done and then recovered directly from the abdomen.¹⁵ However, results with hoods are generally not better than the methods employed by Swolin.

Surgical reversal of electrical tubal sterilization will depend on the site and extent of burn procedure. Laparoscopy as a postoperative procedure is indicated to inspect tubal damage and plan the operative procedure. Simple end to end anastomosis or uterotubal implantation may be required depending on the above factors. However, the extent of tubal damage may not be apparent by inspection and failure to oppose viable tissue will undoubtedly influence results. A tubal length of at least 3.5 cm after repair has been suggested as a determining factor. Laparoscopic sterilization by clips or bands would offer a greater potential for reversal by reducing the amount of tissue destruction over that produced by cautery.

Conclusion

Recent advances in tubal surgery have made these procedures more practical for the infertile

couple. Adequate preoperative evaluation is essential if results are to be meaningful. Couples with little chance of success should be discouraged from undergoing major operative procedures. An experienced surgeon and assistant with adequate time for this delicate surgery are of primary importance if success is to be expected.

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Scintiangiographic Demonstration of Pulmonary Arteriovenous Fistula: Relationship to Rendu-Osler-Weber Disease. Review Article

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ABSTRACT

Historical aspects of Pulmonary Arteriovenous Fistula (PAF) as well as Hereditary Hemorrhagic Telangiectasis (HHT) or Rendu-Osler-Weber (ROW) disease are discussed. A review of the literature presents a compilation of the etiological and pathological features of this interesting and intriguing combination. Comprehensive discussion of the symptoms and physical findings produced by this constellation is reinforced by a case presentation demonstrating the radiographic and radioisotopic findings employed as tools to narrow the diverse differential diagnosis.

Index Terms: Pulmonary Arteriovenous Fistula (PAF), Rendu-Osler-Weber (ROW) Disease, Hereditary Hemorrhagic Telangiectasia (HHT).

HISTORICAL REVIEW

Historically, the first reference made to pulmonary arteriovenous fistula (PAF) as an anatomical entity was by Churton¹ in 1897. Autopsy findings were described.

Prior to this, the relationship of PAF to hereditary hemorrhagic telangiectasia (HHT) and Rendu-Osler-Weber (ROW) disease was beginning to unfold. Hereditary epistaxis was referred to by Babington² in 1865. Legg³ wrote about telangiectasia in 1876. In 1887, Chiari⁴ gave credit to Rendu⁵ for the first all-inclusive description in 1896.

These articles were followed by Osler⁶ in 1901 and Weber⁷ in 1907 instigating the term Rendu-Osler-Weber disease. The term "hereditary hemorrhagic telangiectasia" was first submitted by Hanes⁸ in 1909. Clinical application of these observations were reported by Wilkens⁹ in 1917, who described a patient with epistaxis, telangiectasia, clubbing, cyanosis and dyspnea. Reading,¹⁰ in 1932, is usually credited with being first to describe the clinical triad of cyanosis, polycythemia, and clubbing associated with PAF.

The first clear association of PAF and telangiectasia was probably by Rodes¹¹ in 1938. Smith and Horton¹² described the clinical picture in 1939 and mentioned the value of angiography. Surgical treatment of this entity by Shenstone and Jones in 1940 was reported by Hepburn and Dauphiner¹³ in 1942.

ETIOLOGY AND PATHOLOGY

Goldman¹⁴ pointed out the hereditary aspect of PAF, as well as its equal incidence in both sexes and its relationship with HHT or ROW disease. By observing the entity in two brothers, the familial occurrence of PAF was stressed. The disease was described as basically a congenital defect in development of the terminal loop of the capillaries, with hemorrhage due to fragility of the small vessels.

Moyer¹⁵ described the association of PAF and HHT. This association has since been found in at least 30% of the cases. The hereditary nature of PAF and its relationship to ROW disease became apparent when it was evident that many patients with this clinical syndrome had cutaneous and mucosal hemangiomas.

Abbott,¹⁶ *et al*, stated that of patients with PAF, 44% also had stigmata of ROW disease. Genetic transmission is believed to be by a simple dominant character.¹⁷

Pathologically, the lesion is described by Woolner of the Surgical Pathology Section of the Mayo Clinic in a personal communication to Hodgson,¹⁸ *et al*:

"PAF are composed of an afferent artery, distended efferent veins, and an intervening aneurysmal sac or tangle of dilated tortuous vascular channels. The aneurysmal sac may lie deep within the lung parenchyma or immediately under the pleura where it grossly may resemble an emphysematous bleb filled with blood. Microscopically, the vascular channels are usually thin-walled, contain various amounts of muscle and fibrous tissue, and are lined by epithelial cells."

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Abbreviated Title: X-Ray Diagnosis of PAF.

Similar lesions occur in nearly all organs of the body.

PAF may be either congenital or acquired. Multiple fistulae are known to occur secondary to many other disease processes. These include pulmonary schistosomiasis, cirrhosis of the liver,¹⁹ metastatic lung cancer, bilharziasis with pulmonary hypertension,²⁰ and actinomycosis,²¹ as well as metastatic carcinoma of the thyroid.²²

The congenital form of PAF may be of two types.²³ In the most common form, the abnormal communication is between the pulmonary artery and the pulmonary vein. This type produces the classical clinical triad of cyanosis, polycythemia, and clubbing of the fingers and toes if more than 25-30% of the blood in the lesser circulation is being shunted from right to left sides of the heart through the fistula.

The rarer form is such that the abnormal communication is between the systemic circulation and the pulmonary vessels. Cyanosis and polycythemia reportedly do not occur in this type. More than one-third of cases of this rarer form have multiple fistulas. The rarer form may also give rise to connections between the bronchial arteries and lesser circulation or connections with the systemic arteries of the chest wall and diaphragm.

Location of the fistulas within the lungs may be summarized as to decreasing frequency as follows:²⁴ right lower lobe, left lower lobe, right middle lobe, left upper lobe, and right upper lobe.

SYMPTOMS, PHYSICAL FINDINGS, AND COMPLICATIONS

When one reviews the medical literature pertaining to PAF and ROW disease, one is impressed by the constellation of symptoms, physical findings, and complications associated with this combination.

Clinical symptomatology may be minimal to absent, depending upon the size and extent of the lesions. Stringer,²⁵ *et al*, reported that clinical manifestations appear during childhood in at least half of the cases. Out of 105 patients, 27% were cyanotic at birth or during infancy, 25% in early childhood or at less than ten years of age, and 10% became cyanotic during later childhood. Many series indicate symptoms do not appear until the third or fourth decade.

In most discussions, cyanosis and dyspnea on

effort are reportedly very common. Weiss and Gasul²⁶ state that cyanosis is the most common feature. Clubbing of the fingers and toes is also common. Along with clubbing, pulmonary osteoarthropathy may be encountered.

The dyspnea is secondary to anoxia and is seen in cases where the pulmonary artery forms a major portion of the PAF.²⁷ Although chest pain is not common, anoxia may produce ischemia of the myocardium with resultant chest pain. Giampalmo²⁸ described ECG changes suggestive of myocardial damage in some patients.

In contrast to systemic or peripheral arteriovenous fistulas, cardiomegaly is seldom a feature of PAF.²⁹ Murmurs or bruits may be audible over the fistula. These are usually continuous with maximum intensity in late systole and early diastole, heard best during deep inspiration. Stork³⁰ reported a continuous murmur over the lesion in about 50% of cases.

Hemodynamic and vascular problems are also encountered. Hemorrhage secondary to hemoptysis or hemothorax may be fatal.³¹ Hemoptysis may be due either to gradual dilatation and thinning of the aneurysmal sac or to infection and weakening of the vessel wall.³² Telangiectatic lesions in the genito urinary tract, gastro-intestinal tract, central nervous system (CNS), and tracheo-bronchial tree produce hematuria, melena, hemoptysis, and cerebral hemorrhage.³³ Epistaxis is seen in up to 40% of cases.³⁴ Cerebral abscesses occur in more than 5% of cases. In addition, bacterial endocarditis may be seen. Visceral telangiectasia may be found in more than one-third of cases.³⁵

Central nervous system signs and symptoms are very common. These include headaches, vertigo, weakness, fainting attacks, dizziness, paresthesias, diplopia, seizures, and hemiplegias due to cerebral anoxia, plethora, angiomas in the brain, air emboli from PAF, and abscesses.³⁶ The most elaborate review of CNS symptoms and signs is by Yater, Finnegan, and Griffin in 1949.³⁷

The mention of plethora leads into the discussion of polycythemia. There is an increase in red cell mass and total blood volume without an increase in plasma volume.³⁸ More than half of patients have polycythemia. This form of polycythemia differs from primary polycythemia in that there is no increase in the number of white blood cells or platelets, and the spleen is usually normal. The higher incidence of attendant

thrombosis secondary to polycythemia has been related to CNS problems and duodenal ulcer disease.

RADIOGRAPHIC FEATURES

The radiographic manifestations of PAF exhibited in initial chest radiographs may be as varied as the clinical and physical manifestations. Even though there are exhaustive descriptions of the appearance of PAF in the literature, the initial presentation of this entity may be simple or complex.

Lesions may sometimes go unnoticed in routine chest radiographs.³⁹ The most characteristic finding is one or more round or irregular peripheral shadows or irregular shadows connection to the hilus by vascular bands. The lesion may be multiple in more than one-third of cases.⁴⁰

Radiographic features are extremely variable. These vary from minute, circular densities to large, oval lesions with ill-defined edges that may simulate infiltrates.⁴¹ The lesions may be round or lobulated, single or multiple, and often close to a pleural surface.⁴²

Most authors agree that it is not uncommon to see afferent or efferent vessels connected to nodular or coin-like densities. If these findings are not visualized on plain radiographs, tomography or angiography can be employed. Although these lesions are vascular, associated calcifications are rare.⁴³ Since these abnormalities are vascular, pulsations can be seen during fluoroscopy. The Valsalva maneuver (deep inspiration followed by forced expiration against a closed glottis) produces a decrease in size, and Müller's maneuver (deep expiration followed by forced inspiration against a closed glottis) produces an increase in size.⁴⁴

Since these lesions are vascular by nature, systemic connections to the bronchial arteries or chest wall may occur. In these cases, one may notice erosions of ribs or rib notching produced by collateral vessels.⁴⁵

In addition to the findings of single or multiple nodular densities within lung parenchyma, numerous radiographic patterns associated with multiple complications may occur. These will be discussed in the section concerning differential diagnosis.

CASE DISCUSSION

A 33-year-old male patient had a long history of shortness of breath and dyspnea on exertion.

Further history included recurrent nose bleeds. In addition, his mother experienced recurrent epistaxis.

Physical examination (Fig. 1) revealed multiple telangiectatic areas on his lips and nose. Mild clubbing of the fingers was noted. Auscultation of the chest revealed a continuous murmur over the mid-portion of the right hemithorax.

Chest radiographs (Fig. 2) revealed multiple nodular densities within the anterior portion of the right middle lobe. Plain film tomography of the right middle lobe (Fig. 3) demonstrated multiple, well-marginated nodular densities without calcifications. Xerotomography of the same area disclosed apparent vascular connections (Fig. 4) between the nodular or lobulated densities and the right hilum.

Employing an Ohio-Nuclear series 110 gamma camera with hi-sensitivity collimator, scintiangiograms of the lungs were performed following intravenous injection of 20 millicuries technetium 99-m pertechnetate with serial films obtained (Fig. 5) at two frames per second. Early localization of increased activity within the area of the right middle lobe was noted.

Bi-plane pulmonary angiography (Fig. 6) confirmed the diagnosis of pulmonary AV fistula. In addition, a smaller fistula within the left lower lobe was identified. The abnormality is well shown in the accompanying photographs (Fig. 7) of the gross specimen.

DIFFERENTIAL DIAGNOSIS

According to Weiss and Gasul,⁴⁶ the syndrome of cyanosis, clubbing of fingers, and polycythemia

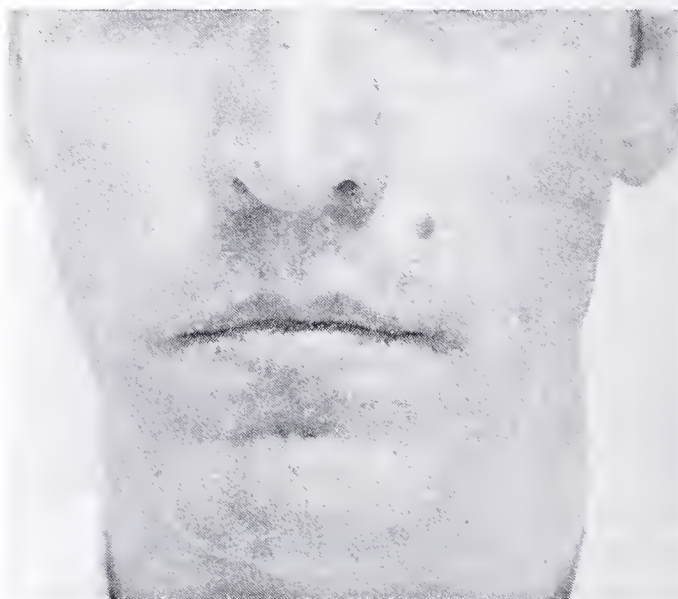


FIGURE 1.
Photograph demonstrates multiple dark spots on lips and nose representative of multiple telangiectasia.

in the presence of a normal heart with x-ray evidence of what appears to be a localized pulmonary lesion of vascular origin makes the diagnosis of PAF almost a certainty. However, numerous disease processes may stimulate PAF clinically and radiographically.



FIGURE 2 (A & B).
PA and lateral chest radiographs reveal multiple nodules within medial segment of right middle lobe.

Clinically, PAF may be confused with polycythemia vera⁴⁷ and congenital heart disease based on initial symptomatology. Most authors agree tomography is beneficial by demonstrating

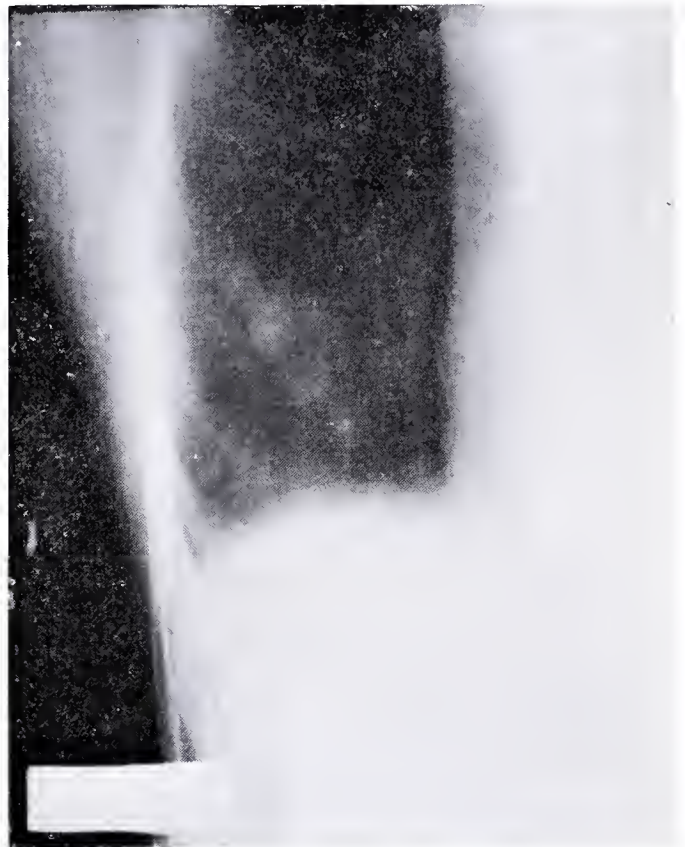


FIGURE 3.
Tomogram of right middle lobe demonstrates non-calcified, smoothly margined nodular densities.



FIGURE 4.
Xerotomography of right middle lobe depicts vascular connections to better detail.

SCINTIANGIOGRAPHIC DEMONSTRATION OF PULMONARY ARTERIOVENOUS FISTULA:
RELATIONSHIP TO RENDU-OSLER-WEBER DISEASE — REVIEW ARTICLE

communicating vessels with the single or multiple densities produced by PAF. In addition, communicating vessels to the lung hilus can be demonstrated. Also, angiography and radioisotope flow studies may be helpful as in our case and that of Stevenson,⁴⁹ *et al.*

Varicosities of pulmonary veins may stimulate PAF. Four patients with chest radiographs that revealed densities consistent with PAF were correctly diagnosed by angiography.⁵⁰ Stork⁵¹ lists many abnormalities that may resemble PAF. Bronchogenic carcinoma may be associated with hemoptysis, cyanosis, and clubbing as in patients with PAF. Small cysts, mesothelioma, adenomas, metastatic lesions, tuberculomas, pulmonary infarcts, unresolved pneumonia, pulmonary artery aneurysm, and hamartomas may be confused with PAF.

Tuberculomas are usually smaller than PAF, but they may be arranged in a chain resembling

a lobulated mass. Bronchial adenomas with peribronchial extensions may simulate communicating vessels.⁵² Intrapulmonary hemorrhage in PAF may produce bleeding in the pleural space resembling pleural effusion. When bleeding occurs, irregular infiltrates resembling pneumonia or pulmonary infarcts may be encountered.

In all confusing or difficult cases, it would ap-

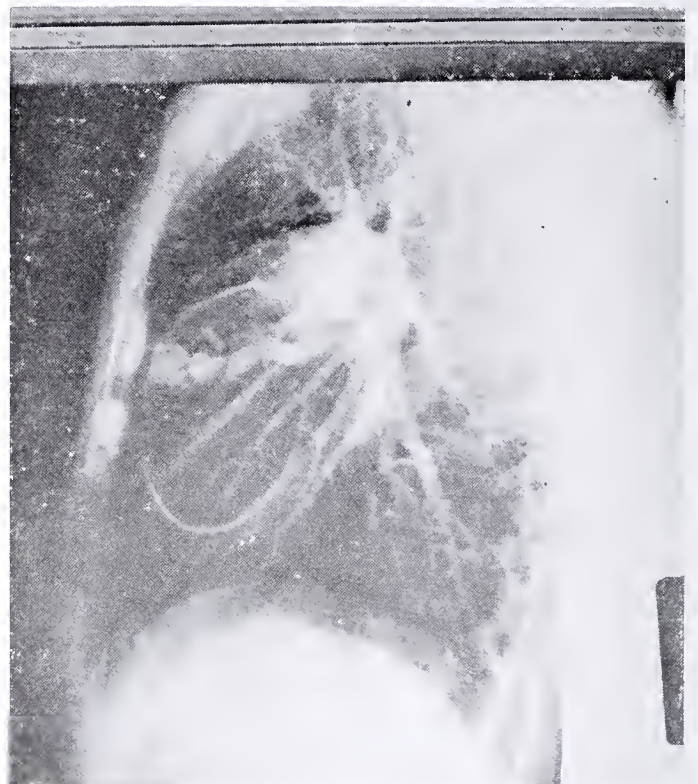
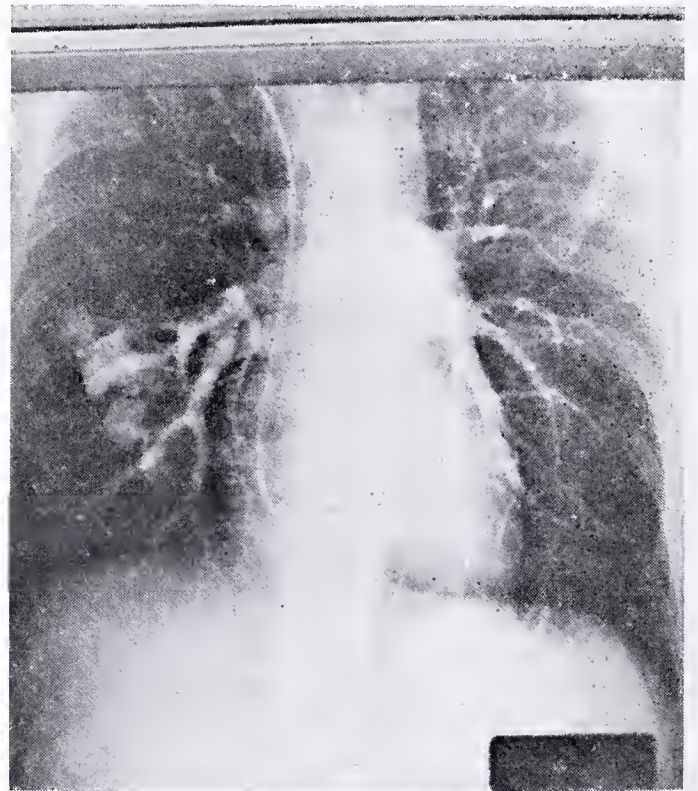


FIGURE 6 (A & B).

Bi-plane pulmonary angiography, compliments of Dr. B. T. Harris, Saint Josephs Hospital East, Memphis, reveal large fistula in right middle lobe and smaller fistula in left lower lobe.

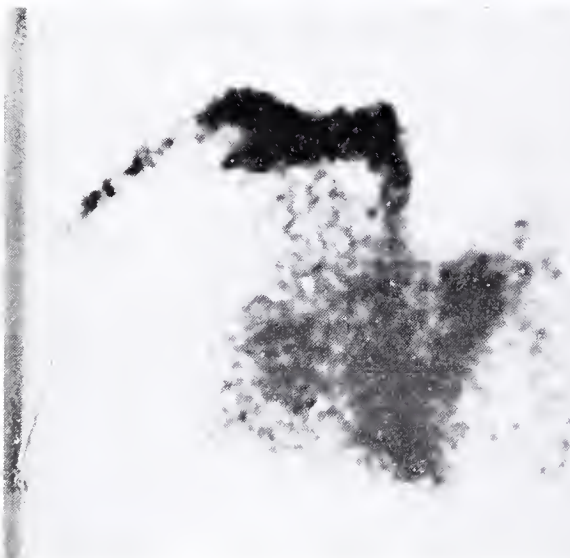


FIGURE 5 (A & B).

Representative frames of scintiangiograms exhibit vascular nature of lesion by demonstrating early activity in focal area of right middle lobe.

pear that quick and simple radioisotopic flow studies would produce helpful additional information in the differential diagnosis of lesions simulating PAF.

SUMMARY

It becomes readily apparent that the association of PAF and ROW disease may plunge both the radiologist and referring physician, as well as the unsuspecting patient, into a perplexing situation.

Via the historical review as well as the etiological and pathological aspects of this disease complex and the attendant symptoms, physical, and radiographic findings, we hope to increase the index of suspicion so that radiologists may more readily diagnose this condition.

Remember the words of the late Merle Sossman: "We see what we look for, and we look for what we know."

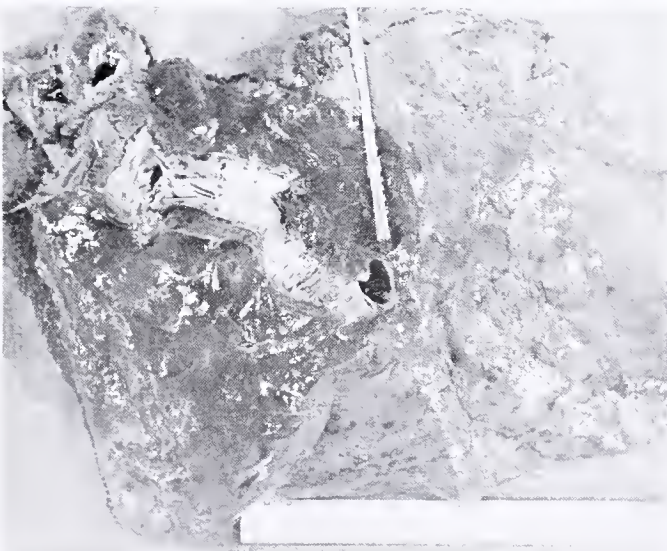
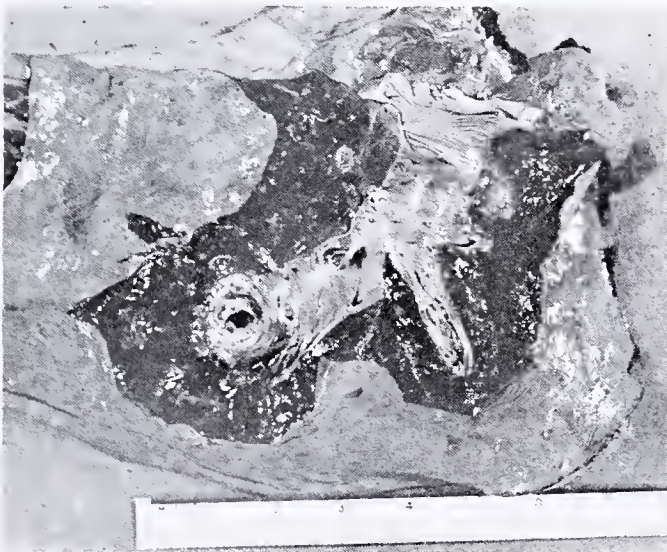


FIGURE 7 (A & B).

Photographs of gross specimen demonstrate pulmonary artery continuous with dilated portion with trabeculated lining continuous with large branch of pulmonary vein. Compliments of Dr. L. C. Prieto, Jr., of the Pathology Department of Saint Josephs Hospital East, Memphis, Tennessee.

ACKNOWLEDGMENTS

I greatly appreciate the editing and proof-reading done by mother and the typing of the manuscript by Mrs. Helen Price. The technical contributions by Ms. Lynda Hilton of the Nuclear Medicine Department and Mrs. Rita Lewis of the Radiology Department are greatly appreciated. The angiography was performed by Dr. B. T. Harris, M.D., of Saint Josephs Hospital East, Memphis, Tennessee, and the pathological descriptions by Dr. L. C. Prieto, Jr., of the same institution helped immensely. The surgery was performed by Dr. Emmett Hall of Memphis, Tennessee.

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RELATIONSHIP TO RENDU-OSLER-WEBER DISEASE — REVIEW ARTICLE

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Office Orthopaedics

The Lumbar Disc

Philip H. Johnson, M.D.*

THE LUMBAR DISC

The lumbar spine is subjected to tremendous loads and at the same time must remain flexible for bending in all directions and rotation. Bone is inherently built for load bearing. The discs, or cushions, between each vertebral body must bear the same loads and at the same time provide flexibility under compression. Each disc consists of two main parts, the peripheral dense fibrous "annulus fibrosus" and the central gelatinous "nucleus pulposus" (Fig. 1). The disc is a perfect hydraulic system acting primarily as a shock absorber. They act to provide stability and transmit forces many times the body weight. Large loads may be transmitted to the discs by weight lifted in the outstretched arms. Like automobile shocks, continuous compression and distraction forces are borne (Fig. 2). The disc, however, is also subjected to bending and twisting. Consider the gymnast as she goes through a normal floor exercise and imagine the extreme forces exerted upon nature's own "shocks."

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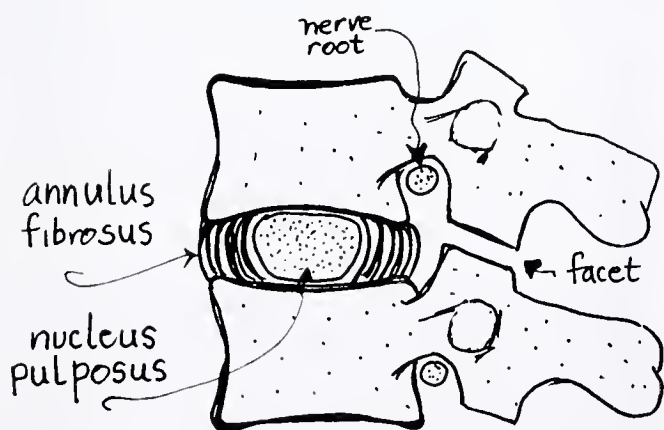


FIGURE 1.

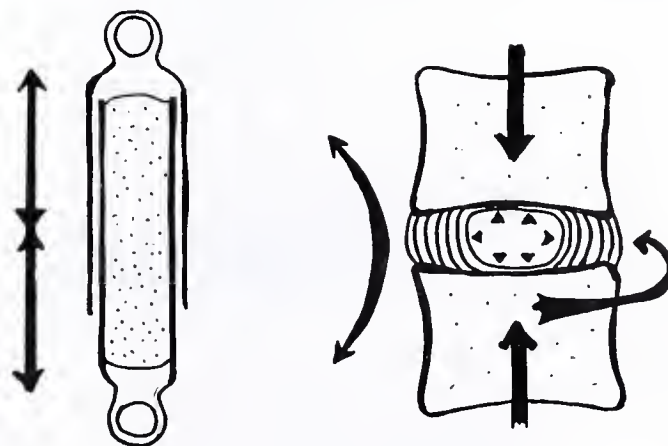


FIGURE 2.

PATHOPHYSIOLOGY

"Degenerative disc disease" is a term frequently used to describe the wear-and-tear aging process which affects this spinal shock absorber. As auto shocks wear out, so, too, does the intervertebral disc. It is, therefore, no more of a disease than aging itself. Everyone is affected by this universal process which usually begins in the lowest lumbar disc. The L5-S1 disc is the fulcrum point for most stress and strain borne by the lumbar spine. Degeneration progresses upward in sequence to L4-L5 and sometimes above. The cervical spine seems to be affected also due to its flexibility and mobility. The cervical spine involvement seems to be later in onset due to its bearing lighter loads. Most patients who have their first attack of discogenic low back pain are in their 20's or 30's and by age 45, almost everyone has had at least one bout of low back pain. On rare occasions, teenagers may be involved. Heavy lifting and exertion, as well as back injury and pregnancy seem to have a definite influence on the initial onset and course of this condition.

Heredity may also play a role. A progression of events occur during this aging phenomenon:

1. The nucleus pulposus in childhood is the consistency of Jello, making it hydraulically very efficient (Fig. 1). The water is absorbed with age and this mucoprotein gel is slowly and gradually converted to collagen fibers with the gross consistency of crabmeat.
2. Wearing and attrition of the annulus fibrosus occurs, particularly in its weakest point, the posterolateral quadrant, bilaterally. As time progresses, less of a distinctive border is seen between annulus and nucleus.
3. "Herniation" (bulging) of a fragment of nucleus frequently occurs as it bores its way into the weakened annulus (Fig. 3). The severe pain and muscle spasm produced is a result of stimulation of the sinuvertebral nerve as the disc bulges posterolaterally.
4. "Extrusion" of disc material occurs when the hard inspissated disc fragment ruptures free into the spinal canal after eroding completely the annulus and the posterior longitudinal ligament (Fig. 4). Following extrusion, pain

may subside unless nerve root pressure is being exerted by the loose fragment.

5. The disc space narrows as a result of this gradual transformation of the nucleus, and its migration.
6. Remissions of pain occur when the bulging disc fragment returns to the central cavity or the extruding fragment completely escapes the annulus.

SYNDROMES

Acute Low Back Pain: The initial onset of discogenic pain is acute in onset, usually mild to moderate in severity and presents over a rather diffuse area of the low back. There may be radiation of pain into the sacrum and gluteae. Frequently, a feeling of tearing or separation of the spine is present. Physical findings are extremely sparse. Some involuntary muscle spasm may be present, but it is usually not very remarkable. Lower extremity signs are not present. The patient will be unable to carry out a normal range of motion due more to extreme pain than to muscle spasm. A mild disc herniation is occurring during this time and symptoms usually lasts for one to three days. Bedrest with analgesia is the only treatment required. Recovery occurs but recurrent attacks punctuate periods of complete remission.

"Lumbago:" With further herniation of the nuclear fragment, a very dramatic localized back syndrome is produced. Marked spasm in the paraspinal musculature produces board-like rigidity and is characteristic of this syndrome. This reaction is completely involuntary and a list of the spine to one side is frequently present. Sometimes complete obliteration of the normal lordotic curve is seen. Treatment consists of bedrest, analgesia, muscle relaxants. Physical therapy (consisting of pelvic traction, heat, ultrasound) and lumbar stretching exercises break up muscle spasm. Gradual improvement occurs with time and rest, but usually takes several days to weeks, depending on the extent and persistence of the disc herniation. Recurrent attacks are not infrequent, or the patient may progress to the next stage.

"Sciatica:" As the bulging herniated nucleus begins to impinge upon segmental spinal nerves, lancinating (radicular) pain in the entire leg occurs (Fig. 5). There is a characteristic anatomic distribution to these signs and symptoms (Table

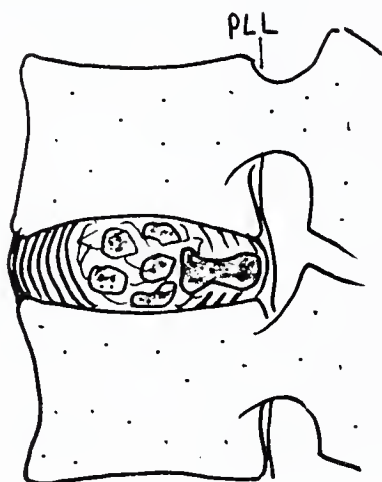


FIGURE 3.

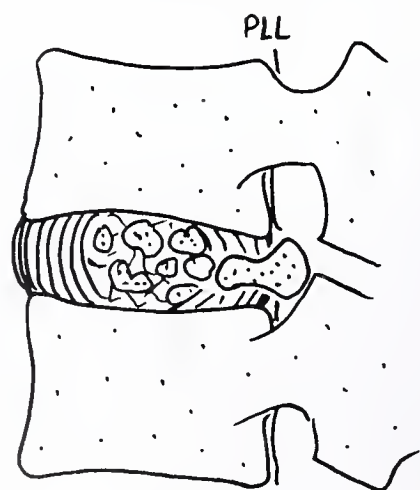


FIGURE 4.

1). Pain is perceived in the posterior leg and numbness in the heel for a bulging L5-S1 disc, compressing the S-1 nerve root. Pain is felt in the lateral leg and numbness in the lateral side of the foot as the L4-L5 disc compresses the L5 nerve root. There is sciatic nerve tenderness at the sciatic notch. Muscle weakness is easily demonstrated by heel and/or toe walking. Straight leg raising is usually positive and is the most reliable sign for L5 or S1 root impingement. Reflex and sensory changes are seen in specific

nerve root distributions. Symptoms persist as long as compression of the nerve root is present. Spontaneous remissions occur as noted above. Occasionally surgery is indicated when signs and symptoms persist despite conservative measures.

Arthritis: The posterior facet joints in the lumbar area are synovial joints and are affected by osteoarthritic changes in a similar fashion. With advancing age and with disc narrowing, mechanical joint dysfunction occurs with attrition of hyaline cartilage and spur formation (Fig. 6). Physical findings in this patient, usually over 50 years of age, consist of limited lumbar motion and tenderness over the involved joints. Disc narrowing with overriding facets and "reverse spondylolisthesis" are seen on x-ray. These symptoms are more chronic in nature and are more annoying than severe.

Bony Sclerosis and Spinal Stenosis: With advancing age, usually over 65 years, bony exostosis, bar formation and spinal stenosis may irritate spinal nerves in the lower lumbar area. Other medical problems (diabetes, etc.) in this age patient frequently make the peripheral nerves more vulnerable to irritation. Disc herniation at this age is extremely rare because fibrosis and sclerosis of the disc has already occurred and marked limitation of motion of the spine is present. Symptoms in this stage are not usually severe and usually respond slowly to conservative treatment. Rarely is surgery required to relieve a specific nerve root from bony encroachment.

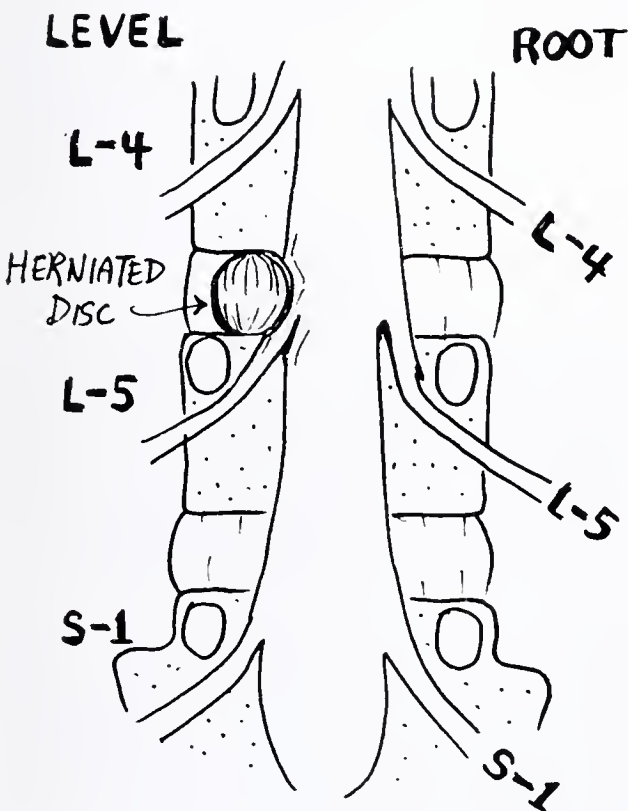


FIGURE 5.

TABLE I

Disc Level	L3-L4	L4-L5	L5-S1
Root Involved	L4	L5	S1
Pain	anteriomedial leg & thigh	lateral leg	posterior leg
Numbness	Big Toe	lateral foot	heel
Reflex Decrease	knee jerk	none	ankle jerk
Weakness	quadriceps	peroneals and ext. hallucus longus	Achilles Tendon
Stretch Test	+ femoral stretch test	+ SLR	+ SLR

LABORATORY

The intervertebral disc is not radiopaque and on routine x-ray is simply a space between the vertebral bodies. Plain x-rays of the lumbar spine reflect only disc narrowing with advanced disc degeneration. To actually demonstrate a herniated disc, a myelogram is required. Radiopaque

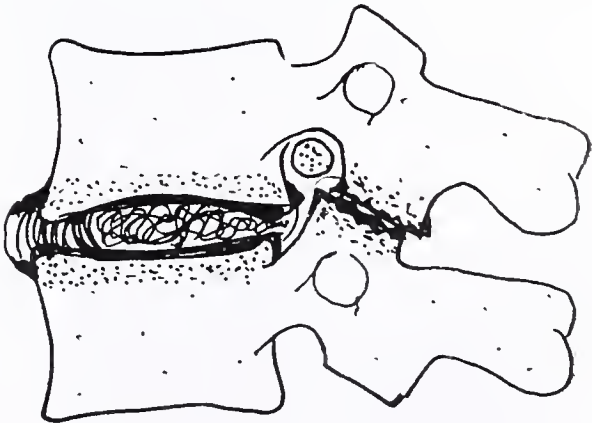


FIGURE 6.

media is instilled in the subarachnoid space which produces positive contrast with the space occupying mass in the spinal canal. A myelogram is not needed to make the diagnosis of herniated nucleus pulposus. Clinical evaluation is usually adequate. Myelography is done when surgery is contemplated, to show the extent of herniation and the exact location. Myelograms also rule out other lesions (cysts, tumors, etc.). Epidural venograms are finding a definite place in localizing the herniated disc not seen on the myelogram. Bone scans are helpful in ruling out primary bony pathology. Electromyography is useful in diagnosing neuromuscular pathology and localizing the specific spinal nerve involved.

TREATMENT

"Nature, time, and patience are the three greatest physicians." This old Chinese adage is never more true than in the treatment of the aging disc. For treatment of the acute pain syndromes, bedrest, analgesia, muscle relaxation, physical therapy and/or manipulation are customary. They are effective in the vast majority of cases and only in a small percentage of patients is surgery necessary. To a great extent the physician waits on Nature to heal.

The best treatment is carried out *between* attacks of disc herniation, when the patient is asymptomatic. Institution of these three simple, but difficult to execute, modalities is often dramatically effective in altering, not the aging process, but of the symptoms the patient experiences.

1. Weight control: The obese patient with protuberant abdomen, carrying his back in a posture of lordosis (swayback), may have continuous back pain and is vulnerable to repeated episodes of disc herniation. This is frequently referred to as "chronic lumbosacral strain." The patient's overweight condition is producing a chronic strain. A crash weight reducing program may not only change the patient's entire life-style, but dramatically alter the course of his chronic and recurrent back pain.
2. Proper development of the abdominal musculature is the key to support of the weak lumbar spine. Sit-up exercises, done in the knee-flexed position preferably on a slantboard, should be religiously done daily to develop tense and strong abdominal muscles. This produces an "internal corset" which will be

effective in transferring the weight bearing fulcrum from the disc space into the abdominal cavity. It must be remembered that it is not the actual performance of the exercises that bring the sought-after result. It is, in fact, the development of the abdominal muscles which occurs after weeks and months of faithful exercise. Good muscular control is difficult to regain after pregnancy, but should become a special project for each postpartum patient.

3. Avoid heavy lifting and exertion. A patient with a history of true herniated disc symptoms is more likely to have a recurrent problem if he engages in unguarded lifting, bending and stooping. This means some restriction of heavy lifting is often necessary, even if it means a change in occupation.

SURGERY

The degenerating lumbar disc is a universal problem of the human race and surgery is only infrequently required. The primary reason for surgery is to relieve the compression of a spinal nerve by disc and/or bone. Only secondarily is the disc space evacuated of the degenerated nuclear contents. When surgery is performed for reasons other than the relief of spinal nerve compression, poor results are frequent. Therefore, BEWARE of surgery on patients with a negative straight leg raising and/or a normal myelogram. In these cases, reconsider rheumatoid spondylitis, diabetic neuropathy, lumbar sprain, intra-abdominal and gyn causes or primary bony pathology.

The long term prognosis for degenerative disc disease is good. Left completely untreated, the normal life-cycle of the lumbar disc ensues, ending disc narrowing, facet arthritis, diminished range of motion (Fig. 7). There are very few patients left with any permanent nerve root impairment (except absent reflex), as a result of de-

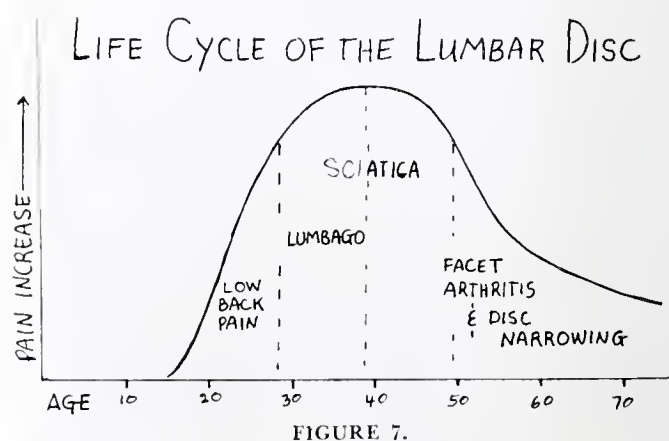


FIGURE 7.

generative disc disease. Most patients with weak muscles spontaneously improve or completely recover. Early there is muscle spasm and lumbago, in the middle years sciatica and nerve root impingement, and later in life disc narrowing and facet arthritis. This is often a very painful malady of mankind, but left untreated, the morbidity and mortality is negligible. The physician, therefore, should see himself in the entire spectrum of the disease. It is often encouraging for a patient undergoing severe pain and debility to know that five years hence, he is not going to be

paralyzed or disabled and will probably be pain-free.

CONCLUSION

The different clinical syndromes of the aging lumbar disc and their various faces are as challenging to explore as an Agatha Christie mystery. It is important for the physician to clearly understand the natural history of the disease in order to most efficiently intervene.

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ELECTROCARDIOGRAM



OF THE MONTH

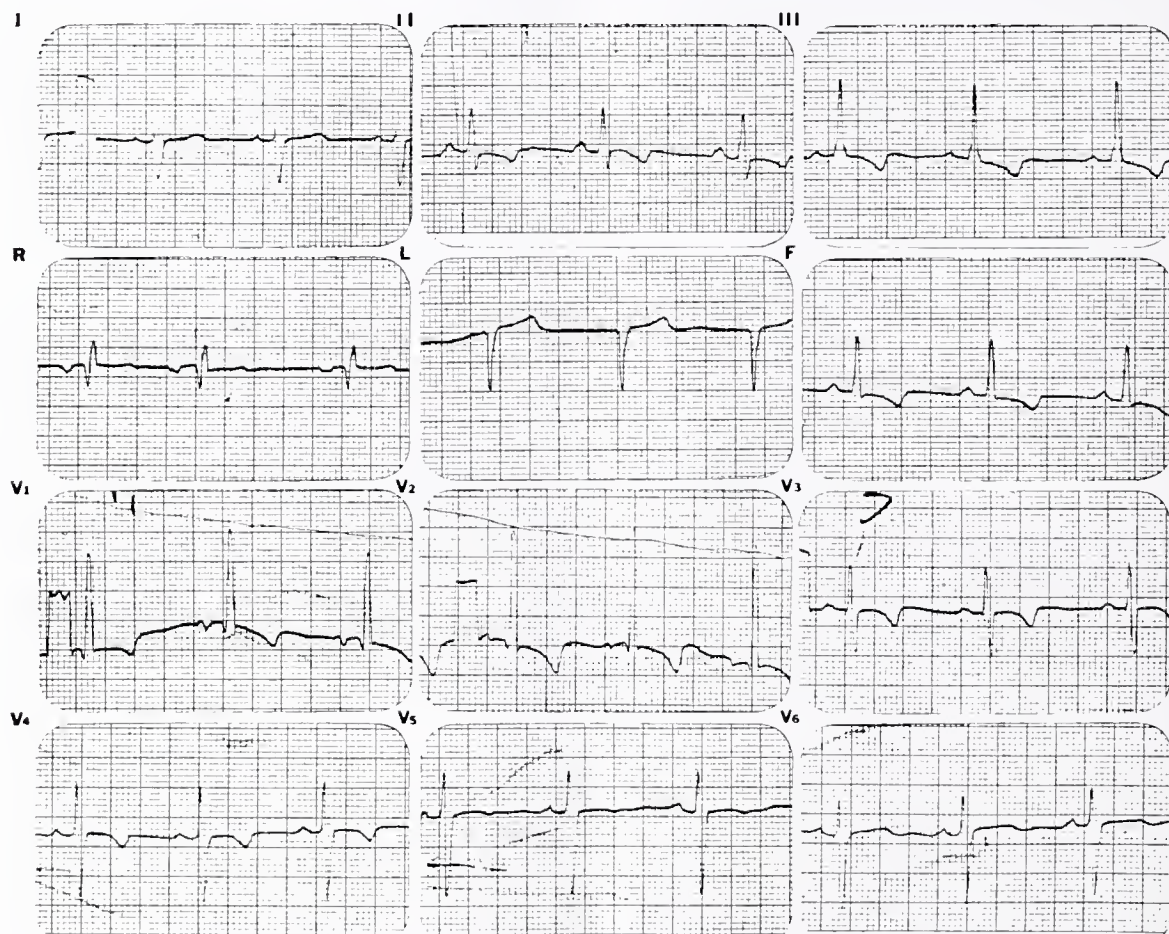
The Department of Cardiology, University of Arkansas College of Medicine

(See Answer on Page 310)

HISTORY: Ms. P. is a 26-year-old female who has presented with dyspnea on exertion and hemoptysis. She gives history of a febrile illness 15 years previously associated with migratory polyarthrititis. The patient does not smoke and has no known exposure to tuberculosis. Her physical examination reveals a normotensive woman with a left parasternal impulse, accentuated P2, an opening snap of the mitral valve, and a diastolic rumble. A chest film shows a normal sized heart with a straight left heart border and suggests left atrial enlargement. Her ECG is shown.

The ECG shows which one of the following choices:

1. Right bundle branch block.
2. Incomplete right bundle branch block.
3. Right ventricular hypertrophy.



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EDITORIAL

Tanglefoot Syndrome

Alfred Kahn, Jr., M.D.

Before the days of OFF™ in a self-powered spray can, cartoons and limericks made FLIT™ in a hand-pumped spray gun famous . . . many people recall "Quick, Henry, The Flit." Fewer folks remember Tanglefoot . . . the predecessor of both . . . a strip of sticky paper on which insects landed and became enmeshed.

Big government brings the Tanglefoot Syndrome; if you touch it one hand gets stuck and inevitably in trying to extricate oneself the other hand and many surrounding objects get gummed together in frustrating irrational mess . . . a great program for fly eradication, but hard to enjoy from a human point of view.

There are numerous variations on the Tanglefoot Syndrome. Most have a very worthy purpose, but the attainment of their goal is frustrated by human nature and red tape. A good example is the continuing graduate medical education program. The need for continuing medical education is so obvious that no arguments need be mustered in its behalf. It is a necessity at all levels of practice. Considering that continuing medical education is vital — is mandatory continuing medical education the answer to the problem? Here is where the Tanglefoot Syndrome begins. As if income tax forms, payroll tax forms, insurance forms, hospital forms, et cetera, et cetera, ad nauseam are not enough forms, now comes another form which may be necessary in quintuplicate or more for the hospital, the county medical society, the state medical society, the AMA, the HUD, and others certifying how you spend your study time. And in the best pedantic big brother style, the rules will set forth the make up of your study time — so many hours of reading, listening, and participation in a precise formula. How many hours and headaches are the prescribed forms going to

cause as they work their way from the individual up the hierarchal tree.

Almost forgotten in this melee is the human factor. It does not take a Ph.D. in Psychology to know that learning is more palatable and better absorbed when the student is tempted, lured, and enticed to learn rather than when he is coerced. There certainly have to be rules of attendance at college level and at medical school level, but the mature physician certainly does not need obligatory guidelines for post graduate education. This is a rather insulting and undignified suggestion to a profession dedicated to learning to promote healing. Involuntary attendance provokes rather perfunctory performance rather than eliciting zeal and enthusiasm.

The thrust of the continuing graduate medical education program exemplifies much of modern America's thinking — if the goal is worthwhile make a rule to force its accomplishment. Time and time again this technique fails to accomplish its purpose because of complexity of administration and burdensome individual participation. Also, at times, strong-minded administrators bend the purpose and aim of the original plan. Of equal importance is overshooting in which the plan ends up being far more stringent than its proponents ever planned. Continuing medical education, if forced by law, could be the vehicle whereby socialized medicine could be promoted. The physician could be dominated by big government. He could lose his identity in a morass of red tape.

None of this is to be construed as an argument against continuing graduate education — it's vital — it's necessary — it represents the zenith of professionalism. This is a plea for voluntary participation in post graduate medical education — not mandatory rules.

™ Trademark.

MEDICINE IN THE



THE MONTH IN WASHINGTON

After a bizarre forty-eight-hour-long swan song, the 95th Congress frantically adjourned leaving dead in its ashes most of the Carter administration's major health proposals.

The leading casualty among the health bills was a hospital cost containment measure. Unexpectedly gaining Senate passage in a watered-down fashion late in the session, the Administration and its congressional leadership pulled out all stops to whisk it through the House. But strong opposition by a number of House members who refused to be stampeded and the concerted effort of the American Medical Association, the American Hospital Association, and other health groups kept the President's much-wanted measure from passage.

The rebuff to the Administration was a smashing victory for health care providers, including the AMA, and was especially sweet to the nation's hospitals which had been subject to bitter tirades from Health, Education and Welfare Secretary Joseph Califano. "Obese," "lazy," "bloated" were adjectives hurled at the hospitals by Califano, who also labeled the Voluntary Effort (VE) to bring down hospitals' costs as a "sham and an impostor."

Also left in the paper rubbish on the Hill were the Child Health Assessment Program, clinical laboratory regulations, drug law reform, and a rewrite of the health planning law, the latter gaining a second one-year extension.

Senator Herman Talmadge's (D-Ga.) carefully worked plan to reshape Medicare-Medicaid reimbursement for hospitals through prospective reimbursement also received the ax in the turmoil of the adjournment.

Two provisions sought by the AMA also failed when the bills to which they were attached became mired. One of the AMA proposals would have repealed Section 227 of the Social Security Act placing a limit on the reimbursement of teaching physicians. Approved by the Senate as

a part of the Hospital Cost Containment Bill, it was never attached to another suitable vehicle after the hospital bill was doomed in the House. Another AMA-backed initiative would have amended the Professional Standards Review Organization (PSRO) law to protect PSRO data from disclosure under the Freedom of Information Act. The Senate could not get around to this provision which was made part of a Medicaid assistance bill which died because of time limitations.

The \$56 billion appropriations bill for the Labor and Health, Education and Welfare Departments passed after adoption of compromise language covering federal funding for Medicaid abortions. The Health Services Bill containing authorizations for many public health service programs such as mental retardation and teenage pregnancy did clear the Congress. A provision for aid to hospitals to set up primary care centers was reduced to a demonstration program while the Health Maintenance Organization program was extended, but with less funding than the Administration sought. Aid for biomedical research also was approved and sent to President Carter.

An angry confrontation took place on Capitol Hill when the AMA met head-on with Sen. Edward M. Kennedy's (D-Mass.) proposal for national health insurance (NHI). The AMA charged that the Kennedy-Labor scheme for NHI would bring about total federal domination of health care in this country.

"We do not find such a program to be in the interest of the citizens of this country," said James Sammons, M.D., executive vice president of the AMA.

William Felch, M.D., chairman of the AMA's Council on Legislation, told Kennedy:

"The total federal takeover of the health care system is inescapable under this program. In our opinion we do not think the American public will want its health care directed and controlled by the federal government. The history

of federally run programs does not instill such trust and confidence as to support such action."

The confrontation took place before Kennedy's Senate Human Resources Subcommittee on Health on the second day hearings on the outline of a new NHI plan recently proposed by Kennedy. At the opening session, Kennedy heard from six people from Canada who had severe medical problems and from six Americans. He contrasted the high out-of-pocket costs to the Americans with the total government payment of the costs in Canada, declaring that "if these differences between the United States and Canada don't move the people of this nation, then nothing can . . ."

The hearing was described by Kennedy as "the first serious congressional debate on National Health Insurance. It will last for many months. It will be carried to every part of this nation."

Dr. Felch noted that Kennedy's plan would impose strict controls on hospitals and physicians through revenue and expenditure limits on hospitals and revenue limits on physicians.

"Manifest is the inherent unfairness of subjecting one industry to stringent cost controls without likewise controlling the factors that affect the costs in that industry," said Dr. Felch.

"Again, it is grossly inequitable to single out a segment of our society and economy for discriminatory controls. This on its face would be objectionable."

The heart of the Kennedy-Labor proposal sets national maximum budget levels of expenditures for health care together with similar maximum areawide and state budgets. Hospital budgets and physician fee schedules would be negotiated annually.

This budgeting process would be controlled through a new federal agency called the "Public Authority."

The attempt is to make the health system learn to live within a budget, Dr. Felch said. "The inescapable result of such a budget is 'rationing' of health care," he warned.

"The point is we agree with you that health care costs must be kept in reasonable balance, but we urge the Congress not to fall into the

'cost containment trap' — the belief that cost control is more important than the alleviation of human misery and suffering."

Dr. Sammons told Kennedy that the AMA shares the concern of proponents of NHI proposals that health care should be available to all persons. He pointed out that the AMA developed a bill in the 95th Congress — the Comprehensive Health Care Insurance Act — that provides comprehensive and catastrophic coverage for all persons, and is founded on the strengths of its existing health system. "Its foundation is solidly based upon the successes of our entire health delivery system, allowing for future development and innovation," Dr. Sammons said.

The AMA official testified that during the long period of NHI debate a number of significant changes have taken place in the health system. These include a marked increase in numbers of medical schools; a significant expansion in medical graduates; a substantial increase in training of allied personnel; a proliferation of medical facilities; development of sophisticated technology; wider distribution of medical personnel; expansion of government supported health programs; increased access to care by the disadvantaged; and wider coverage of private health insurance, including catastrophic coverage.

"Thus while the debate has waxed and waned, our health delivery system has shown steady improvement," he said.

The AMA witnesses' appearance was marked by several sharp exchanges with Kennedy. The Senator took issue with Dr. Sammons' statement that Kennedy's bill would result in a total federal takeover. The witness suggested that Kennedy read his bill again.

Kennedy also complained about the AMA's assertion his bill would lead to rationing of health care. Dr. Sammons replied that when fixed budgets and ceilings are established coupled with increased demand, somewhere along the line there will be people who are not receiving services.

Dr. Sammons told the subcommittee that while there are drawbacks in U. S. health care, it is "superior to any other in the world."

* * * *

The rupture between the Carter Administration and organized labor on NHI goes unrepaired.

HEW Secretary Califano refused to accede to Labor's demands that the Administration tailor its NHI plan to Labor's scheme. The crucial difference is Labor's insistence that NHI be implemented in one fell swoop; the Administration wants it done in stages.

Califano earlier told the Senate Human Resources Subcommittee that: "The President believes that a program this complex — affecting the nation's third largest industry which employs six percent of the entire work force and having profound implications for federal, state, and local budgets — must be phased in with singular care and sensitivity to the economy, governmental budget and the administrative complexity of the health care system."

Califano also indicated the Labor-Kennedy plan would be too costly, pointing to the \$30.8 billion addition to the federal budget by 1983 contemplated by the plan, a figure soft-pedaled by the Labor forces. "We all want the costs of a national health plan to be 'tolerable,' but the American people obviously must know specifics before they can reach a conclusion," said Califano.

* * * *

The Voluntary Effort has received support from two high Carter Administration officials. During a meeting of the National Steering Committee on Voluntary Cost Containment in Washington, D. C., Barry Bosworth, chairman of the Council on Wage and Price Stability, and Robert Strauss, special counsel to the President, said that President Carter "wanted us to come here today to encourage you in your efforts to contain health care costs." Although the Administration failed to obtain enactment of hospital cost containment legislation, Strauss said the Administration recognizes the significant progress of voluntary programs in the fight against inflation.

Bosworth said both he and Strauss were "eager to work with the VE on a cooperative basis." Hospitals are "one of the very few industries in which deceleration (of the rate of inflation) has succeeded," Bosworth said, "and this is significant considering the rate of inflation in the rest

of the economy." He added that "the design of the Voluntary Effort addresses the unique problems of its own field better than any other industry the Council on Wage and Price Stability has seen."

Bosworth recommended strengthening the VE by screening the performance of individual hospitals, taking into account local conditions and differences. He added, however, "the program would be more effective with teeth behind it" in the form of standby controls.

Following the steering committee meeting, Paul Earle, executive director of the VE, announced at a press conference that the rate of growth in hospital expenditures during the first seven months of the year was 12.8 percent — the lowest rate since 1974. "The decrease in the rate of increase in hospital expenditures by 2.8 percent (from 1977) indicates a trend which shows that the VE goal of a two percent reduction will definitely be accomplished this year," Earle said.

James Sammons, M.D., executive vice president of the AMA, told those at the press conference that the medical profession is totally committed to the VE, outside as well as inside of hospitals. Physicians have been reducing the rate of escalation of fees, Dr. Sammons said, noting that many medical societies have established commissions on the cost of medical care. "A call for moderation in the rate of physicians' fees by Tom E. Nesbitt, M.D., AMA president, has been widely supported," he noted. Dr. Nesbitt was commended by the VE committee for his effort.

Dr. Sammons said the AMA has been meeting corporate leaders to discuss cost factors in health care provisions and noted that the AMA has just issued a cost containment kit to its constituent medical societies.

Alexander McMahon, president of the American Hospital Association; and Michael Bromberg, executive director of the Federation of American Hospitals, predicted that the next Congress will be even more resistant to federal hospital control proposals because of the success of the VE.

"The success of the Voluntary Effort in containing hospital costs was the single most important factor in winning Congress support in

the fight against any form of the Administration's proposed hospital revenue caps," said McMahon.

* * * *

President Carter has singled out the health care sector for special attention in his new wage-price guideline plan to dampen inflation. While calling for the economy as a whole to "decelerate" wages and prices by one half of a percentage point, the chief executive said the increase of medical care costs should drop by two percentage points per year.

"The most important step we can take (for medical care) is to pass our bill to control hospital costs," Carter said in his nationwide address. Noting that the Senate this year passed a version of the controversial hospital cost containment program, Carter said "next year I will try again, and I believe the whole Congress will act to hold down hospital costs — if your own members of Congress hear from you . . ."

In a White Paper on the anti-inflation program, Carter said that "voluntary actions of the medical care industry have moderated the rate of medical care inflation." He was referring to the Voluntary Effort led by the AMA, AHA and the FAH which has succeeded in bringing hospital rate of increase down more than two percent compared with the rate a year ago.

Carter said the White House Council on Wage and Price Stability "will continue to monitor inflation in this sector and will assist the industry's own efforts to contain health care costs. However, the best way to make substantial inroads into the persistent medical care inflation problem is to enact cost containment legislation."

Carter said "the most significant action we can take to reduce inflation in medical care costs is to institute direct controls over hospital costs."

"A deceleration of only one half of a percentage point in medical care costs is not commensurate with the extreme magnitude of these recent cost increases," according to the chief executive.

He said the health care industry "is not one in which market forces can be expected to provide an adequate restraint on price increases."

The American Medical Association applauded President Carter's call for voluntary controls on

wage and price standards as part of his new anti-inflation program. "However," said James H. Sammons, M.D., executive vice president of the AMA, in assessing President Carter's remarks, "we are sorry that the President chose to single out the health care industry, and particularly hospitals, for mandatory controls at a time when that industry has been cited by his own Council on Wage and Price Stability as 'one of the very few industries in which deceleration has succeeded'."

* * * *

The supply of physicians will be more than adequate to meet the nation's needs by 1990, according to a government study.

"Tremendous increases in health manpower supply (may) bring supply and requirements for most health professions more nearly into balance than at any time in the nation's recent history," said the report on the Status of Health Professions Personnel in the United States, prepared by the Department of HEW. The increases stem from the sharp expansion of training facilities and enrollments during the past decade due in part to federal programs to aid medical education.

The numbers of practitioners in the major health professions — medicine (including osteopathy), dentistry, optometry, pharmacy, podiatry and veterinary medicine — are expected to increase from 40 percent to 70 percent between 1975 and 1990. In every discipline the supply is expected to increase faster than the population.

Physician supply is expected to rise from 379,000 in 1975 to almost 600,000 in 1990. The ratio of physicians to population is projected to rise from 177 per 100,000 people in 1975 to 241 per 100,000 in 1990.

* * * *

COUNCIL MINUTES ARKANSAS MEDICAL SOCIETY

The Council of the Arkansas Medical Society met at 10:00 a.m. on Sunday, November 19, in the Camelot Inn, Little Rock. Council members present were: Burge, Wynne, Andrews, Shuffield, Duzan, Pearson, Osborne, Crow, Gray, J. Bell, P. Bell, Stone, Irwin, Jameson, Warren, Duncan, Harris, McCrary, Jouett, Jones, Henry, Williams, Kutait, Chudy, Phillips, Koenig, Watson, Applegate, Ellis, Saltzman, Fowler, Verser,

and Brown. Others present were: Purcell Smith, Rex Ramsay, Thomas Bruce, Edgar Easley, Jim Lytle, John Kirkley, Ken Lilly, Mr. Gene Brooks, Mr. Paul Harris, Mr. Eugene Warren, Mr. Robert Cearley, Mr. Michael Mitchell, Mr. Ken La-Mastus, Mr. Paul Schaefer, C. C. Long, and Miss Richmond.

The Council transacted business as follows:

1. Morriss Henry discussed the resolution from the Ophthalmology Section considered by the Council at its last meeting. Upon his motion, the Council voted to withdraw the resolution from the agenda for the House of Delegates.
2. Rex Ramsay, Director of the State Health Department, discussed the inspection program for nursing homes in Arkansas and presented the following resolution for consideration by the Council:

WHEREAS, the need for the improvement of care in nursing homes is recognized; and

WHEREAS, it is noted that the Arkansas Medical Society has for many years supported the improvement of care in nursing homes in Arkansas, and

WHEREAS, this organization has supported the Department of Health as the regulatory authority for licensing and reviewing the quality of care in nursing homes, and

WHEREAS, we are deeply concerned that a proposal has been made to create within the Department of Human Services a Medical Services Division which would consolidate the regulatory authority of the Department of Health and the authority of the Arkansas Social Services in regulating nursing homes;

BE IT THEREFORE RESOLVED THAT this current program and any future programs of this nature be the continued responsibility of the Department of Health.

Upon motion of Shuffield, the Council adopted the resolution.

3. Jim Lytle, chairman of the Study Committee on Location of the Headquarters Office, reported to the Council that his committee requested authorization from the Council to spend up to \$2,500 to obtain service of a consulting firm to assist in determining cost figures required in the House's charge to the

Committee. Upon motion of Williams, the Council approved the committee's request.

4. Chairman Burge reported to the Council that he had appointed A. E. Andrews, John Bell, and L. J. P. Bell as an ad hoc advisory committee to assist him in selecting a replacement for Dr. Thomas on the Budget Committee. He reported that the committee recommended increasing the Budget Committee to five, adding Asa Crow, Rhys Williams, and William Jones to the two present members — Treasurer K. R. Duzan and Ken Lilly. Upon motions of Warren and Williams, the Council voted to increase the Budget Committee to five members as proposed, with four members to have staggered terms (decided initially by drawing straws) and the treasurer of the Society is to be a standing member of the committee. Chairman Burge designated Ken Lilly as chairman of the committee.
5. Chairman Burge reminded the Council that the Society was cooperating in a voluntary cost containment effort and suggested that perhaps a Council committee on cost containment should be established. No action was taken by the Council.
6. Kemal Kutait, chairman of the Study Committee on the Boone County Resolution, requested Council approval of mileage and overnight expenses for meetings of his committee. The request was not approved by the Council.
7. John Bell requested information on the Society's position regarding the American Medical Association's proposed settlement of the Pennsylvania chiropractic suit. Upon motion of Williams, the Council voted to endorse the policy set forth by the College of Surgeons and the College of Radiology. The position endorsed is that the terms of the settlement agreement conflict with established AMA policy and that the Board of Trustees did not have the authority to commit the AMA to the settlement.

The Council meeting adjourned at 11:35 a.m.

APPROVED BY: John P. Burge, M.D.

Chairman of the Council

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MINUTES
HOUSE OF DELEGATES
ARKANSAS MEDICAL SOCIETY

The House of Delegates of the Arkansas Medical Society met at 1:30 p.m. on Sunday, November 9, 1978, in Little Rock. Speaker Amail Chudy presided, assisted by Vice Speaker W. P. Phillips.

Roll call was by the Executive Vice President, C. C. Long. Present and seated as voting members of the House were: Arkansas County, John M. Hestir; Ashley, Donald L. Toon; Baxter, John F. Guenther; Benton, Harry Harmon, Michael Reese; Clark, R. Jerry Mann; Columbia, John F. Rushton; Craighead-Poinsett, James M. Robinette, Frank M. James, Clarence E. Gossett; Crittenden, Milton D. Deneke; Faulkner, Bob Benafield; Garland, Gaither C. Johnston, Edgar K. Clardy, Ronald J. Bracken; Greene-Clay, Richard O. Martin, J. Larry Lawson; Hempstead, James W. Branch; Independence, Jim E. Lytle; Jackson, John Ashley; Jefferson, Banks Blackwell, George Roberson; Lawrence, Ted S. Lancaster; Miller, Donald L. Duncan; Mississippi, Eugene Shaneyfelt; Ouachita, Cal Sanders; Phillips, Robert D. Miller, Jr.; Polk, David Fried; Pope, James M. Kolb, Jr.; Pulaski, Edgar Easley, Paul Cornell, Frank Westerfield, William G. Reese, Harold Purdy, John McCollough Smith, Gilbert O. Dean, Curry Bradburn, Glen Baker, Joe Colclasure, Alvah Nelson, Ben N. Saltzman, Henry Thomas, Ed Hankins, Purcell Smith, Art Squire; Sebastian, Ken Lilly, A. C. Bradford, W. P. Phillips, Carl Williams, Morton Wilson, A. S. Koenig, Jr.; Union, Jacob P. Ellis, Allan S. Pirnique; Van Buren, John A. Hall; Washington, Lee B. Parker; Yell, James L. Maupin; Councilors M. J. Osborne, Asa Crow, Paul Gray, John E. Bell, L. J. P. Bell, Raymond Irwin, J. B. Jameson, Jr., Donald Duncan, C. Lynn Harris, Robert F. McCrary, W. Ray Jouett, William N. Jones, Morris M. Henry, Rhys A. Williams, Kemal Kutait; President George Wynne; President-Elect A. E. Andrews; First Vice President Richard Pearson; Speaker of the House Amail Chudy; Vice Speaker W. P. Phillips; Secretary Elvin Shuffield; Treasurer Kenneth R. Duzan; Past Presidents Joe Verser, Ross Fowler, Stanley Applegate, Robert Watson, Ben N. Saltzman, A. S. Koenig, Jr., and W. Payton Kolb.

The House transacted business as follows:

1. Robert Benafield made a presentation to the

House regarding the new payment program for Arkansas Blue Shield.

2. Speaker Chudy introduced a legislative proposal on malpractice which had been drafted for consideration by the 1979 Legislature. The proposal had been considered by the Council and forwarded to all members of the Society for study.

Elvin Shuffield moved that the House take a vote on whether or not the Society sponsor some type of malpractice legislation. Speaker Chudy asked for a standing vote on sponsoring some type of malpractice legislation and declared the motion carried.

Richard Pearson suggested that an amendment to the proposal be considered pertaining to testimony of expert witnesses. He recommended that an individual be qualified to testify as an expert witness only if he spends fifty percent of his time in the clinical area on which he is testifying. Legal counsel indicated study would be given this recommendation.

Chairman Shuffield reported that the Legislative Committee recommended amending the proposal under Article I, Section II, to include "Certified Registered Nurse Anesthetists" as a "medical care provider."

Speaker Chudy asked for a standing vote on approval of the malpractice legislative proposal as amended. The proposal was approved by majority vote.

3. Vice Speaker Phillips called on Elvin Shuffield for the report of his Legislative Committee. Dr. Shuffield reported recommendations from his committee as follows:

- (1) That the Society oppose a proposal by the Trial Lawyers Association which would extend the Statute of Limitations.
- (2) That the Society endorse a proposal by the Arkansas State Health Department to clarify the enforcement authority of the Controlled Substances Act and to provide for inspectors.
- (3) That the Society endorse a proposed amendment to the Administrative Procedures Act which would change the language of the act to require a reviewing court to give the State Medical Board no-

tice when an appeal has been filed staying the effective date of enforcement of the Board's order to revoke or suspend a license and to allow the Board an opportunity for a hearing.

- (4) That the Society support a proposal to allow the State Medical Board to set dates for licensure examinations, Board meetings, and to provide for an inspector.
- (5) That the Society support a legislative proposal pertaining to advertising. The proposal would provide resolution of the conflict in the present law for defining "physician" and "chiropractor" and render constitutional our provision on professional advertising, providing that it is illegal to make false, misleading or deceptive statements or claims in advertising.
- (6) That the Society oppose any legislative proposal permitting optometrists to use drugs in the eye.
- (7) That the Society support amendment to the Rural Practice Loan Fund Act proposed by the committee administering the loan fund. The proposed change would increase the amount of money granted applicants and increase the minimum size of the community in which the physician must practice to repay the loan. The proposal would increase the loan to \$10,000 per year as a maximum for communities of 5,000 or less and \$5,000 per year for communities of 5,000 to 10,000 population.

By vote of the House, the recommendations of the Legislative Committee were approved.

Chairman Shuffield advised that his committee did not have sufficient information to provide details to the House, but reported that a number of other legislative proposals of interest would undoubtedly be introduced. He reported that legislation was anticipated to change the acts governing inhalation therapy, that there would probably be legislation pertaining to nurse practitioners, a proposal to repeal the law requiring motorcycle riders to wear crash helmets, some amendment to the Spinal Cord Commission Act, and a bill by chiropractors to liberalize their practice.

He indicated that the legislative proposals presented earlier in detail are the ones which should be passed for the good of the people of the State.

Speaker Chudy adjourned the meeting at 3:15 p.m.

APPROVED BY: Amail Chudy, M.D.

Speaker of the House of
Delegates

DR. WHITAKER GUEST SPEAKER

Dr. John N. Whitaker, Professor of Neurology at the University of Tennessee, was a special guest lecturer in Neuropathology at St. Vincent Infirmary, Little Rock, on December 29th. Dr. Whitaker spoke on "Laboratory Aspects of Demyelinating Diseases."



ANSWER—Electrocardiogram of the Month

DISCUSSION: The QRS duration is 0.08 sec and the axis is deviated far to the right. There is a qR complex in V1 with no S-wave and T-wave inversion is noted from V1-V4 and in II, III, and AVF as well. The intrinsicoid deflection is delayed in V1 and V2 and the R-wave amplitude in V1 and V2 is 15 mm or more. Thus, full criteria for RVH are present. RBBB is a poor choice because of the QRS duration. Incomplete RBBB is more difficult to exclude, but cannot be diagnosed on this trace because of the absence of an R¹ in V1 and because the QRS duration does not exceed 0.09 sec.



keeping up

Category 1 Continuing Medical Education Programs Available in Arkansas

CARDIOLOGY FOR THE PRACTICING PHYSICIAN

Dr. James E. Doherty, Program Director. 8:00 a.m. (Registration) until 4:30 p.m., *FEBRUARY 2, 1979*. Arkansas State Mental Health Services Auditorium, 4313 West Markham, Little Rock. Six hours of Category I credit, six prescribed hours credit American Academy of Family Physicians. Course fee \$50.00. Toll free information 1-800-482-5578.

PRESENTATION ON STROKES

Dr. Surinder N. Gupta, Program Director. 12:00 Noon, *FEBRUARY 5, 1979*. St. Joseph's Mercy Medical Center, Red Room (Third Floor), Hot Springs, Arkansas. One hour Category I credit. \$5.00 course fee, no charge to staff members.

DIABETES AND HYPERTENSION (HOW THEY ARE FREQUENTLY ASSOCIATED)

Presented by Dr. John R. Higgins, University of Oklahoma, Endocrinology. 7:30 p.m., *FEBRUARY 6, 1979*. Area Health Education Center, 100 South 14th, Fort Smith. Two hours Category I credit. No fee.

ACUTE RESPIRATORY FAILURE

Dr. Charles Hiller, Program Director. *FEBRUARY 12 through 14, 1979*. 8:00 a.m. until 4:00 p.m., *FEBRUARY 12*; 8:30 a.m. - 4:00 p.m., *FEBRUARY 13*; 8:30 a.m. - 2:30 p.m., *FEBRUARY 14*. Arkansas State Mental Health Services Auditorium, 4313 West Markham, Little Rock. Sixteen hours Category I credit and 16 prescribed credit hours by the American Academy of Family Physicians. Tuition \$100.00. Registration closing date February 5, 1979. Toll free information 1-800-482-5578.

PRACTICAL APPLICATIONS OF DRUG MANAGEMENT

Dr. Ben N. Saltzman, Program Director. 8:00 a.m. until 5:15 p.m., *FEBRUARY 17, 1979*. University of Arkansas Medical Sciences, Education II Building, Ground Floor, Ampitheaters 141 A-B, Little Rock. Seven hours Category I credit,

seven hours prescribed credit hours by American Academy of Family Physicians. Course fee \$35.00. Toll free information 1-800-482-5578.

CLEFT PALATE CONFERENCE

12:30 p.m. until 1:30 p.m., *FEBRUARY 21, 1979*, and *APRIL 18, 1979*. Education Wing, Room E-159, St. Vincent Infirmary, Little Rock. One hour Category I credit.

CANCER DAY

Dr. D. H. Berry, Program Director. 8:15 a.m. until 4:30 p.m., *FEBRUARY 22, 1979*. Arkansas State Mental Health Services Auditorium, 4313 West Markham, Little Rock. Six hours Category I credit, six hours credit American Academy of Family Physicians. No fee. Toll free information 1-800-482-5578.

EMERGENCY MEDICINE SEMINAR

Visiting professor, Dr. Watts R. Webb, Chairman, Department of Surgery, Tulane University. Local faculty will include Drs. Cole Goodman, David Crittenden, Jim Long, Robert Janes, and Mr. Lyman Long. Registration 8:30 a.m., Program 9:00 a.m., *MARCH 3, 1979*. Fianna Hills Country Club, Fort Smith. Seven hours Category I credit. \$25.00 fee. Contact Area Health Education Center, 100 South 14th, Fort Smith, Arkansas 72901.

PRESENTATION ON HYPERTENSION

Dr. Victor Vertes, Professor of Medicine, Case Western Reserve University of Cleveland, Ohio. 12:30 p.m., *MARCH 3, 1979*. Red Room, St. Joseph's Mercy Medical Center, Hot Springs. One hour Category I credit. \$5.00 fee, no charge to staff members.

EIGHTH ANNUAL NEONATAL SYMPOSIUM

Dr. Alice Beard, Program Director. 8:30 a.m. until 4:00 p.m., *MARCH 9, 1979*. Arkansas State Mental Health Services Auditorium, 4313 West Markham, Little Rock. Six hours credit Category I, six hours credit American Academy of Family Physicians. \$35.00 fee. Toll free information 1-800-482-5578.

As organizations accredited for continuing medical education by the Liaison Committee on Continuing Medical Education, the organizations named certify that these continuing medical education activities meet the criteria for the credit hours specified in Category I of the Physician's Recognition Award of the American Medical Association.

**AEROBICS — THE SCIENCE OF PREVENTIVE
MEDICINE OR CAN YOU AFFORD
NOT TO EXERCISE**

Dr. Kenneth H. Cooper, M.P.H., Dallas, Texas.
9:30 a.m. until 4:30 p.m., MARCH 10, 1979.
Texarkana Community College Auditorium,

Texarkana. Six hours Category I credit. \$10.00 course fee for two tickets, \$4.00 for lay persons, and \$2.00 for students. Sponsored by Texarkana Area Health Education Center and the Bowie-Miller County Medical Auxiliary.

RECURRING EDUCATION PROGRAMS

Unless otherwise indicated, fees are for meals only and programs are for one to one and a half hours Category I credit.

PULMONARY CONFERENCE, February 1 and 15, 1979. 12:00 noon, St. Vincent Infirmary, Little Rock.

MORBIDITY AND MORTALITY CONFERENCE, February 1 and March 1, 1979. 8:00 a.m., Baptist Medical Center, Little Rock.

MEDICAL LECTURE SERIES, February 2, 9, 23; March 2, 9, 23, and 30, 1979. 11:50 a.m., St. Bernards Regional Medical Center, Jonesboro. \$1.50 fee.

MEDICINE CONFERENCE, February 2, 16, and March 2, 16, 1979. 11:30 a.m., Baptist Medical Center, Little Rock.

INTERHOSPITAL GI PROBLEMS CONFERENCE, February 5, 1979. 6:00 p.m., St. Vincent Infirmary, Little Rock.

INTERHOSPITAL UROLOGY GRAND ROUNDS, February 7, 1979. 5:00 p.m., St. Vincent Infirmary, Little Rock.

SURGERY CONFERENCE, February 8, 15, 22; March 8, 15, 22, 29, 1979. 8:00 a.m., Baptist Medical Center, Little Rock.

TUMOR CONFERENCE, February 13 and March 13, 1979. 12:00 noon, St. Bernards Regional Medical Center, Jonesboro.

CENTRAL ARKANSAS PRIMARY CARE CONFERENCE, February 13 and March 13, 1979. 7:00 p.m., Baptist Medical Center, Little Rock.

BASIC CARDIOPULMONARY RESUSCITATION COURSE FOR PHYSICIANS, February 14 and March 14, 1979. 6:30 p.m., pre-registration required. Baptist Medical Center, Little Rock.

CHEST CONFERENCE, February 16 and March 16, 1979. 11:50 a.m., St. Bernards Regional Medical Center, Jonesboro. \$1.50 fee.

NEUROPATHOLOGY CONFERENCE, February 20, 1979. 5:00 p.m., St. Vincent Infirmary, Little Rock.

MONTHLY MEDICAL LECTURE, February 20 and March 20, 1979. 7:30 p.m. February 20th, Walnut Ridge, March 20th, Pocahontas.



RESOLUTIONS



DR. HARLEY C. DARNALL

WHEREAS, God, in His infinite mercy, has seen fit to call from our midst Dr. Harley C. Darnall, and

WHEREAS, Dr. Darnall has faithfully served his patients in the community at large throughout his entire medical career, and

WHEREAS, Dr. Darnall, during his years of practice, has reflected the highest ideals of his profession, and

WHEREAS, in his devotion to family, church, and friends he exemplified the best in man, and

WHEREAS, the Sebastian County Medical Society mourns his loss

THEREFORE, be it resolved that the Sebastian County Medical Society, in its regular meeting on November 14, 1978, hereby adopts these Resolutions and directs that a copy be spread on the Minutes of the Society and that a copy be furnished the family and that a copy be published in the Journal of the Arkansas Medical Society.

Signed: S. E. Landrum, M.D., President of the Sebastian County Medical Society.



PERSONAL AND NEWS ITEMS

GOVERNOR APPOINTMENTS

Dr. Bob G. Banister of Conway was recently appointed to the Statewide Health Coordinating Council by Governor David Pryor. Dr. Banister, who replaces Dr. Jerome Levy of Little Rock, will serve until 1980. Dr. James Rasch of Little Rock has been appointed to a three-year term on the State Inhalation Therapy Examining Committee.

DR. BLEDSOE NAMED FELLOW

Dr. James H. Bledsoe of Rogers has been named a Fellow of the American College of Surgeons. He has been in practice in Rogers since June 1978.

DR. WALLACE HONORED

Dr. Ken Wallace of Fort Smith was recently named "Doctor of the Year" at the dinner meeting of the Sebastian County Medical Assistants Society. Dr. Wallace is an Ophthalmologist associated with Drs. Gary V. Felker, Robert P. Hughes, Jr., S. R. McEwen, and Everett C. Moulton, Jr., at Ophthalmology Clinic in Fort Smith.

DR. DICKSON NAMED FELLOW

Dr. Glenn E. Dickson of Jonesboro has been named a Fellow of the American College of Surgeons. Dr. Dickson has practiced in Jonesboro since January 1975.

DR. BOWKER SPEAKER

New developments in medical rehabilitation were discussed by Dr. John H. Bowker with the members of the Unitarian Universalist Church in Little Rock recently. Dr. Bowker is the director of rehabilitation at the University of Arkansas Medical Center and professor of Orthopedic Surgery at the College of Medicine in Little Rock.

DR. LINDSEY ATTENDS INTERNATIONAL CONGRESS

Dr. James A. Lindsey recently attended the Seventh International Congress of Rural Medicine in Salt Lake City, Utah. While attending the meeting Dr. Lindsey presented a paper, "Collaborative Training Family Practice Residents and Medical Social Work Students." Dr. Lindsey is associated with the Family Practice Center in Pine Bluff.

NEW PHYSICIANS FOR PARAGOULD

Two physicians have joined the professional ranks at Paragould. Dr. Vern Ann Shotts specializes in Pediatrics at the Family Practice Clinic, and Dr. Mack Shotts has joined Dr. Asa Crow in Family Practice at the Paragould Medical Centre.

DR. NELSON SPEAKER

Dr. Alvah J. Nelson, III, of Little Rock recently spoke and presented slides to the Baxter County Medical Society on "Cures of Cancer." Dr. Nelson is a Radiotherapist with Central Arkansas Radiation Therapy Institute and is associated with Radiology Associates in Little Rock.

DR. SELLARS NAMED FELLOW

Dr. John R. Sellars was recently named a Fellow of the American College of Surgeons. Dr. Sellars has been in General Surgery practice in Paragould since July 1976.

DR. ROY ATTENDS MEETING

Dr. F. Hampton Roy of Little Rock recently attended the eighth Congress of the Bolivian Society of Ophthalmology. While attending the Congress, Dr. Roy presented the following four speeches: "Intraocular Lens Implantation," "Narrow Angle Glaucoma," "Vitreous Loss During Cataract Surgery," and "Hispano American Academy of Ophthalmology."

DR. KUMPURIS ELECTED TO BOARD

Dr. Frank G. Kumpuris of Little Rock was recently elected to the Board of Directors of the Union National Bank of Little Rock. Dr. Kumpuris is a General Surgeon with his office at 415 North University.

DR. RANEY MAKER OF VIOLINS

Dr. Troy Raney of Cave City is an accomplished violin maker. Dr. Raney, who is in Family Practice, entered his first violin for judging at the Violin and Guitar Makers Association of Arizona show recently. He placed sixteenth in a field of eighty-three.

DR. OATES REAPPOINTED TO COUNCIL

Dr. Gordon P. Oates was reappointed to the State Nursing Home Advisory Council by Gov-

ernor Pryor. Dr. Oates, who is associated with the Little Rock Health Department, will serve for two additional years.

DR. WYNNE SPEAKER

Dr. George F. Wynne spoke recently to the Rotary Club in Warren. He discussed medical quackery in Arkansas during the early 1930's.

DR. CHAMBERS LOCATES IN NASHVILLE

Dr. Hugh Chambers recently began practicing in Nashville. Dr. Chambers is a native of Arkansas and was graduated from the University of Arkansas College of Medicine in 1954. Prior to moving to Nashville, he had been in practice in Louisiana for eleven years and most recently, he was in practice in Lamar, Colorado, for ten years.

DR. READ BEGINS FAMILY PRACTICE

Dr. Paul S. Read recently came out of retirement to enter Family Practice in Fairfield Bay. His office is located on Highway 330.

DR. NETHERTON LOCATES

Dr. Cynthia Netherton recently began general practice in Clinton. Dr. Netherton is a graduate of the University of Arkansas College of Medicine and completed an internship with the United States Public Health Service Hospital in New Orleans, Louisiana.

DOCTORS HONORED

The Lawrence Memorial Hospital and Nursing Home recently set aside a day as "Doctors Appreciation Day." Among those honored were Drs. Ralph Joseph and John Smoot of Walnut Ridge.

PHYSICIANS ASSIST IN CLASSES

Springdale Memorial Hospital recently conducted a series of community education programs about diabetes. Assisting in the programs were Dr. Charles Sisco of Springdale who discussed "Complications of Diabetes Mellitus," Dr. Mitchell Singleton of Fayetteville, "Diabetes and the Eye," and Dr. Frank DeSandre, Springdale, "Diabetes and Pregnancy."

DR. WILSON ACCEPTS POSITION

Dr. Francis M. Wilson of Jonesboro has accepted the volunteer position of medical advisor for the Craighead County Unit, American Cancer Society's "Reach to Recovery" program. Dr. Wilson will provide liaison between volunteers and physicians in the community. Reach to Recovery is a rehabilitation program for women who have had mastectomies.

MANILA HOSPITAL OFFICERS

Dr. E. A. Shaneyfelt was elected chief of staff of the Manila Community Hospital and Dr. Scott Fergus of Osceola was elected secretary-treasurer.

DR. HAMMONS SPEAKS

Dr. Edward P. Hammons of Forrest City spoke recently to the Running and Jogging Club members about cardiac fitness and risk factors involved in running and jogging. Dr. Hammons is a Family Practitioner in Forrest City.

PHYSICIANS PARTICIPATE IN WORKSHOP

Dr. Sidney W. Arnold of West Memphis and Dr. Thomas J. Simpson of Harrison spoke at the Second Annual Workshop on Cervical Cancer Screening held recently in Little Rock.



VANDERBILT UNIVERSITY SYMPOSIUM

Vanderbilt University School of Medicine, Nashville, Tennessee, will present the Harry S. Abram Memorial Symposium, "Frontiers in Medical Ethics: Application in a Medical Setting," on February 14 and 15, 1979. The Symposium will be directed to increasing awareness of the extent to which medical decisions involve humanistic value dimensions, to incorporating value dimensions into medical decision making, and to increasing community awareness in this regard. Viewpoints of physicians, philosophers, ethicists, lawyers, and social scientists will be presented. The Symposium is approved for ten hours of Category I credit. Additional information: Vanderbilt University School of Medicine, Department of Continuing Education, 1161 Twenty-first Avenue South, Nashville, Tennessee 37203.

CLINICAL PROBLEMS, UNIVERSITY OF CHICAGO

The University of Chicago, Section of Gastroenterology and Liver Study Unit, is sponsoring a three-day postgraduate course on "Approaches to

"Clinical Problems in Gastroenterology and Hepatology," March 27-29, 1979. Topics will include peptic ulcer, gastrointestinal cancer, inflammatory bowel disease, hepatobiliary disorders, small bowel disease/nutrition, and functional disorders.

Approved for twenty-two hours Category I credit. For further information contact Dr. Sumner C. Kraft, Course Director, 950 East 59th Street, Chicago, Illinois 60637; or telephone AC 312-947-5567.

SAN FRANCISCO CANCER SYMPOSIUM

The fourteenth annual San Francisco Cancer Symposium, "Body Image, Self-Esteem and Sexuality in Cancer Patients," will be held at the Hyatt on Union Square in San Francisco, California, March 23 through 24, 1979. Registration fee \$125.00, registration deadline March 15, 1979. Further information: Jerome M. Vaeth, M.D., West Coast Cancer Foundation, 50 Francisco Street, Suite 200, San Francisco, California 94133; telephone AC 415-981-4590.



NEW MEMBERS

DR. MARVIN LEIBOVICH

Dr. Marvin Leibovich has been added to the membership of the Pulaski County Medical Society. Dr. Leibovich was born in Memphis, Tennessee, and received his B.S. degree from Memphis State University. In 1977, he was graduated from Meharry School of Medicine at Nashville, Tennessee, and is presently serving his internship at the University of Arkansas Medical Center and Baptist Medical Center in Little Rock.



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WARNINGS: If tolerance develops, the recommended dose should not be exceeded in an attempt to increase the effect, rather, the drug should be discontinued. Tenuate may impair the ability of the patient to engage in potentially hazardous activities such as operating machinery or driving a motor vehicle, the patient should therefore be cautioned accordingly. *Drug Dependence.* Tenuate has some chemical and pharmacologic similarities to the amphetamines and other related stimulant drugs that have been extensively abused. There have been reports of subjects becoming psychologically dependent on diethylpropion. The possibility of abuse should be kept in mind when evaluating the desirability of including a drug as part of a weight reduction program. Abuse of amphetamines and related drugs may be associated with varying degrees of psychologic dependence and social dysfunction which, in the case of certain drugs, may be severe. There are reports of patients who have increased the dosage to many times that recommended. Abrupt cessation following prolonged high dosage administration results in extreme fatigue and mental depression; changes are also noted on the sleep EEG. Manifestations of chronic intoxication with anorectic drugs include severe dermatoses, marked insomnia, irritability, hyperactivity, and personality changes. The most severe manifestation of chronic intoxications is psychosis, often clinically indistinguishable from schizophrenia. *Use in Pregnancy:* Although rat and human reproductive studies have not indicated adverse effects, the use of Tenuate by women who are pregnant or may become pregnant requires that the potential benefits be weighed against the potential risks. *Use in Children.* Tenuate is not recommended for use in children under 12 years of age.

PRECAUTIONS: Caution is to be exercised in prescribing Tenuate for patients with hypertension or with symptomatic cardiovascular disease, including arrhythmias. Tenuate should not be administered to patients with severe hypertension. Insulin requirements in diabetes mellitus may be altered in association with the use of Tenuate and the concomitant dietary regimen. Tenuate may decrease the hypotensive effect of guanethidine. The least amount feasible should be prescribed or dispensed at one time in order to minimize the possibility of overdosage. Reports suggest that Tenuate may increase convulsions in some epileptics. Therefore, epileptics receiving Tenuate should be carefully monitored. Titration of dose or discontinuance of Tenuate may be necessary.

ADVERSE REACTIONS: *Cardiovascular:* Palpitation, tachycardia, elevation of blood pressure, precordial pain, arrhythmia. One published report described T-wave changes in the ECG of a healthy young male after ingestion of diethylpropion hydrochloride. *Central Nervous System:* Overstimulation, nervousness, restlessness, dizziness, jitteriness, insomnia, anxiety, euphoria, depression, dysphoria, tremor, dyskinesia, mydriasis, drowsiness, malaise, headache; rarely psychotic episodes at recommended doses. In a few epileptics an increase in convulsive episodes has been reported. *Gastrointestinal:* Dryness of the mouth, unpleasant taste, nausea, vomiting, abdominal discomfort, diarrhea, constipation, other gastrointestinal disturbances. *Allergic:* Urticaria, rash, ecchymosis, erythema. *Endocrine:* Impotence, changes in libido, gynecomastia, menstrual upset. *Hematopoietic System:* Bone marrow depression, agranulocytosis, leukopenia. *Miscellaneous:* A variety of miscellaneous adverse reactions has been reported by physicians. These include complaints such as dyspnea, hair loss, muscle pain, dysuria, increased sweating, and polyuria.

DOSAGE AND ADMINISTRATION: Tenuate (diethylpropion hydrochloride): One 25 mg. tablet three times daily, one hour before meals, and in mid-evening if desired to overcome night hunger. Tenuate Dospan (diethylpropion hydrochloride) controlled-release: One 75 mg. tablet daily, swallowed whole, in mid-morning. Tenuate is not recommended for use in children under 12 years of age.

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References: 1. Citations available on request—Medical Research Department, MERRELL RESEARCH CENTER, MERRELL-NATIONAL LABORATORIES, Cincinnati, Ohio 45215. 2. Hoekenga, M.T., O'Dillon, R.H., and Leyland, H.M., A Comprehensive Review of Diethylpropion Hydrochloride. International Symposium on Central Mechanisms of Anorectic Drugs, Florence, Italy, Jan. 20-21, 1977.

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February, 1979

THE JOURNAL OF THE *Arkansas* MEDICAL SOCIETY

Vol. 75 No. 9

FORT SMITH, ARKANSAS

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tions as suggested in several studies. Consider possibility of pregnancy when instituting therapy; advise patients to discuss therapy if they intend to or do become pregnant.

Precautions: In the elderly and debilitated, and in children over six, limit to smallest effective dosage (initially 10 mg or less per day) to preclude ataxia or oversedation, increasing gradually as needed and tolerated. Not recommended in children under six. Though generally not recommended, if combination therapy with other psychotropics seems indicated, carefully consider individual pharmacologic effects, particularly in use of potentiating drugs such as MAO inhibitors and phenothiazines. Observe usual precautions in presence of impaired renal or hepatic function. Paradoxical reactions (e.g., excitement, stimulation and acute rage) have been reported in psychiatric patients and hyperactive aggressive children. Employ usual precautions in treatment of anxiety states with evidence of impending depression; suicidal tendencies may be present and protective measures necessary. Variable effects on blood coagulation have been reported very rarely in patients receiving the drug and oral anticoagulants; causal relationship has not been established clinically.

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NEWS—Our readers are requested to send in items of news, also marked copies of newspapers containing matter of interest to the membership.

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Management of Fractured Mandibles

Jerry H. Puckett, M.D., D.D.S.,* and James Y. Suen, M.D.**

INTRODUCTION

The fractured mandible has become a common occurrence in our mechanized society with the prevalence of automobiles and the continuing high incidence of intended violence.

It has become the responsibility of primary care physicians, either in the office practice or emergency room facilities, to diagnose and give acute care to patients with facial trauma.

The mandible is the largest and strongest of the facial bones, but because of its prominent position and inherent rigidity it is fractured twice as often as any other facial bone with the exception of the nasal bones.

The mandible may be divided into eight anatomic regions for classification of fractures (Fig. 1a and 1b). These are symphyseal, parasymphyseal, alveolar, body, angle, ramus, coronoid process and the subcondylar areas. Fractures of the mandible may be classified as single or multiple, complete or incomplete, favorable or unfavorable, displaced, impacted, comminuted and compounded (open) or simple (closed).

The force required, according to Nahum,¹ to fracture the mandible varies according to the direction of the blow. A minimum of 425 pounds, applied to the symphyseal region in a perpendicular direction, is necessary to produce a single subcondylar fracture. To produce a bilateral subcondylar fracture, 550 pounds are required and between 850 and 925 pounds for a symphyseal fracture. Lesser forces are required if the blow is delivered from a lateral direction.

EVALUATION

When a patient is first seen with head and neck trauma a pertinent history should be taken and an immediate complete physical examination done. It is important to assure an adequate airway and to take care of any shock or hemor-

rhage initially. Depending on the history and physical exam a skull series may be necessary to be sure a skull fracture is not overlooked. Also, a cervical spine series to rule out displacement, compression or fracture of the cervical spine should be considered. Regional care should always be secondary to general supportive care.

DIAGNOSIS

With a history of injury, the diagnosis of mandibular fracture is suspected with difficulty of opening or closing into correct occlusion. Tenderness, ecchymosis and edema over the fracture site may be evident. Subjective and objective crepitus may be noted with motion or manipulation of the mandible. It may also be helpful to have the patient bite on a tongue blade with each side of the mandible. This will elicit pain in a high percentage of mandible fractures.

The radiograph is relied on for a definitive diagnosis. Standard mandible films include lateral obliques and an anteroposterior view. These will usually be sufficient but additional aid may be gained from panorex and occlusal dental films if they are available. With the tremendous forces involved in mandible fractures, one should rule out other concomitant injuries. A sinus series is ideal for diagnosis of fractures of the mid facial bones.

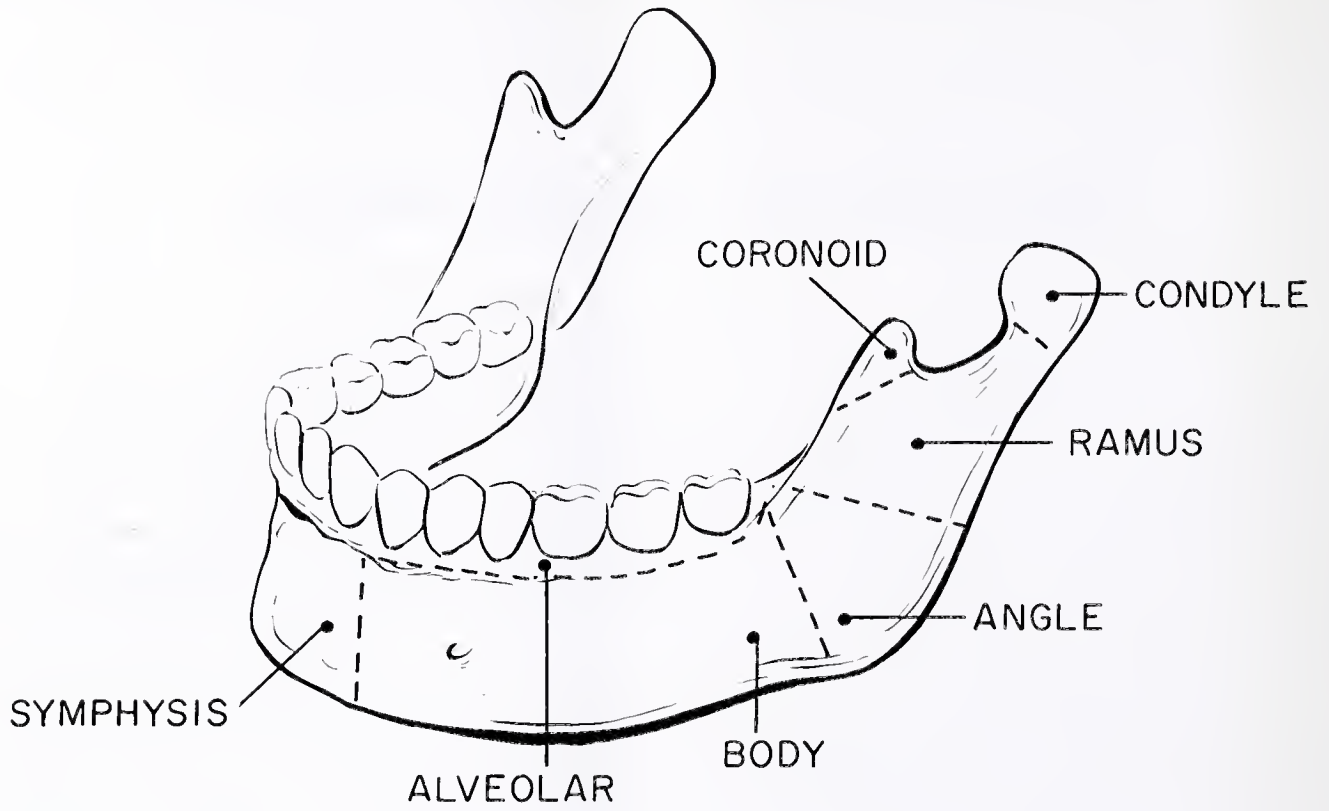
ACUTE MANAGEMENT

The acute care of the fractured mandible includes immobilization of the mandible, analgesics and antibiotics if the fracture is compounded (open). According to UAMS statistics (reviewed later) about one third of mandible fractures will have bone exposed grossly. Fractures adjacent to and including teeth should also be considered open because of the direct access of oral fluids and bacteria into the fracture site.

Adequate temporary immobilization of the mandible may be accomplished with the well known barton bandage and the patient may then be referred for definitive care.

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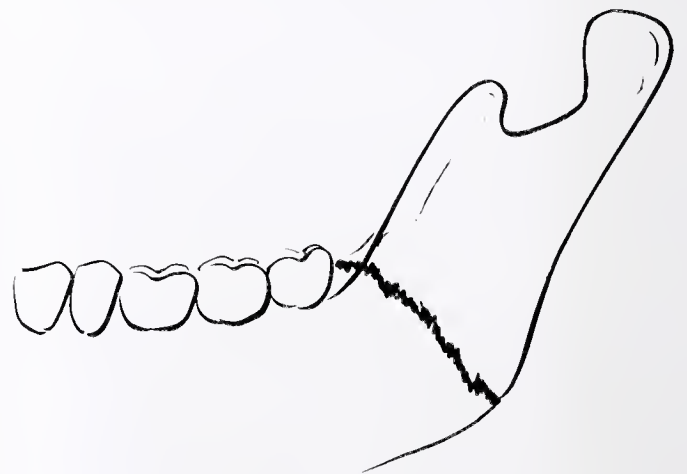
CORONOID PROCESS



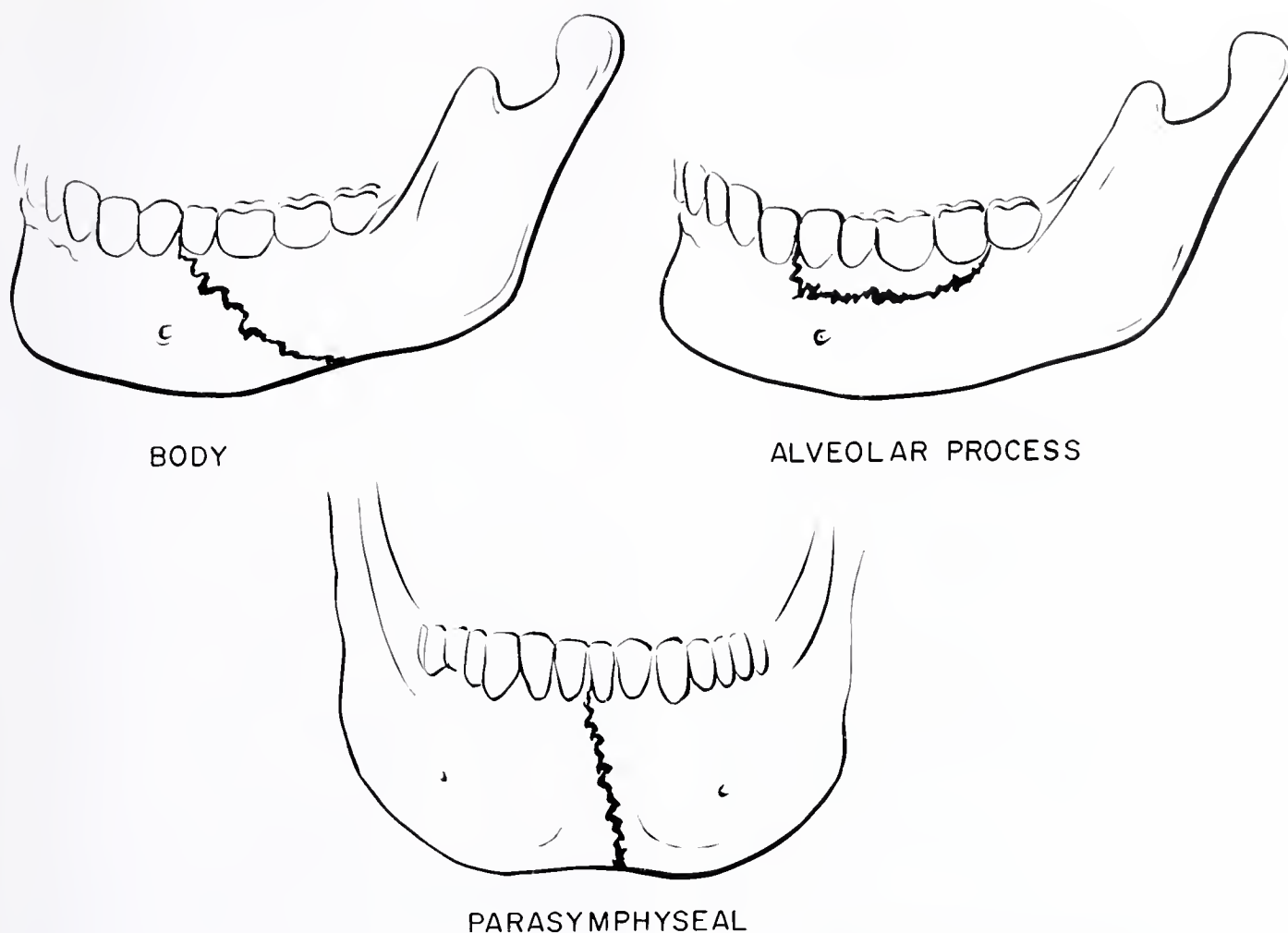
ASCENDING RAMUS



SUBCONDYLAR



ANGLE



DEFINITIVE CARE

The treatment of a fractured mandible will vary according to the part of the mandible involved, and also will be determined by the age of the patient and the presence or absence of teeth. The basic principles are reduction of the fracture and stabilizing it with direct wiring and/or interdental fixation. A simple fracture of the body of an adult dentulous mandible with sound teeth on either side of the fracture site will usually require only the placement of arch bars with interdental fixation for about six weeks (Fig. 2). Subcondylar fractures are also treated adequately with arch bars and interdental fixation. Alveolar fractures can be treated with arch bars and circum-mandibular wires for immobilization. The symphyseal, parasymphyseal and angle fractures are considered "unfavorable" fractures because of the tendency to be displaced by opposing muscle pull. When these regions are involved it is usually necessary to do an open reduction and internal fixation with wiring of the fragments and also arch bars with interdental fixation to re-establish the correct occlusion.

EDENTULOUS MANDIBLES

In the case of a fractured edentulous mandible, open reduction and internal fixation by wiring is usually required. Immobilization can be accomplished utilizing maxillary and mandibular splints. The mandibular splint may be secured with circum-mandibular wiring and the maxillary splint may be secured by suspension wires around the zygomatic arches. Maxillary and mandibular dentures may be used for splints if the patient has them, even if broken. Interdental fixation may then be accomplished utilizing the dentures or with constructed splints (Gunning type).

MANDIBULAR FRACTURES IN CHILDREN

Children present unique problems when they sustain a mandibular fracture. Mandible fractures in children account for only about 5% of fractures treated. The paucity of children's fractures is due to their short stature, the short, thick condylar neck and the elasticity of their bones. The deciduous teeth and permanent tooth follicles occupy most of the body of a child's mandible and therefore body fractures frequently include a tooth follicle in the fracture line. The follicle should be left undisturbed and most often will

continue to develop and erupt at the usual time. If open reduction and internal fixation of a child's mandible is indicated, one must be careful not to place a wire hole through a tooth follicle. Indications for open reduction are essentially the same as for adults. Interdental fixation must be handled differently because the deciduous teeth may be extracted unless countertraction is applied using circum-mandibular wires and suspension wires around the zygomatic arches. Non-displaced or incomplete subcondylar fractures may be simply observed and placed on a liquid diet for two weeks. Early treatment is important in children because Callus formation will begin within five to six days making reduction difficult if attempted after that length of time. Adult fractures may be reduced ten days to two weeks after injury with good results. Immobilization in children is usually briefer than in adults because of more rapid healing (usually two to four weeks).

COMPLICATIONS OF MANDIBLE FRACTURES

The complications of mandible fractures include osteomyelitis, malunion, nonunion, malocclusion problems, anesthesia of the teeth and lip secondary to disruption of the inferior alveolar nerve and asymmetry of the face. Disturbance of the growth centers may occur in children resulting in late deformities. Ankylosis of one or both temporomandibular joints may also be a sequela of mandibular fractures, usually of the subcondylar type.

REVIEW OF MANDIBULAR FRACTURE AT UAMS

We recently reviewed our last 50 mandibular fractures treated at UAMS. The etiology was intended violence 22, motor vehicle accidents in 18, accidental falls in 8 and 2 were secondary to football injuries. There were 14 patients with bone exposed and 37 were closed injuries.

Twenty-eight (56%) had two or more fractures with three having both fractures on the same side.

The other twenty-two were unilateral. Three patients were edentulous. There were 37 fractures with teeth in the fracture line. Nineteen of the patients had extraction of the involved tooth and eighteen had the tooth left in the fracture line. Of the nineteen with extractions two had complications of abscess formation and nonunion. The eighteen with teeth left in had one such complication. These results seem to indicate that there is no compelling reason to extract a tooth in a fracture line, unless the tooth is fractured or grossly mobile. There were ten of the 50 patients with no teeth in the fracture line and in three patients the x-rays were not available for review to determine if teeth were involved. The type of treatment was closed reduction in twenty-seven and open reduction and internal fixation in twenty-three. The age distribution was as follows:

AGE IN YEARS						
0-10	11-20	21-30	31-40	41-50	51-60	60
# OF FRACTURES						
1	10	23	6	3	4	3

SUMMARY

In summary, the majority of mandible fractures occur in teenagers and young adults secondary to intended violence and motor vehicle accidents. Approximately one-third will have bone exposed grossly and about one-half will be bilateral fractures. In our series, the most common regions of fracture are the body and angle and nearly three-fourths of these will involve a tooth in the fracture line. Slightly greater than one-half of patients will require open reduction and internal fixation with the rest needing only arch bars and interdental fixation.

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Radiocarbon Cholesterol Turnover in Cholesterol Thorax

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Karl D. Straub, M.D., Ph.D.***

SYNOPSIS

Two patients with pleural effusion were given 50 microcuries of C(⁴⁻¹⁴) labeled cholesterol. One patient had a cholesterol effusion, and the other a chronic non-cholesterol effusion.

The patient with cholesterol effusion had a longer serum half-time, 45 days compared to 22 days. There is delay in the time required for pleural fluid activity to reach a plateau, but no significant delay in equilibration of serum and pleural fluid radioactivity. The concept that there is a delay in transport of cholesterol across the diseased pleura is supported by this data. The mechanism of this delay is unknown, but is suspected to be a mechanical effect of the thickened diseased pleura. The delay in transport of cholesterol into and out of such effusions may result in a more static fluid in which degradation of cholesterol-lipoprotein complexes can occur with resultant precipitation of crystalline cholesterol.

INTRODUCTION

Cholesterol pleural effusion is characterized by the presence of cholesterol crystals, so that when swirled, the fluid gives the appearance of gold paint. The actual cholesterol content of the fluid after centrifugation with removal of crystalline cholesterol is usually normal.

Although first described by Churton in 1882,¹ the condition is infrequently reported, with just over one hundred cases being described in the world literature.

Although it is known that this phenomenon occurs in chronic effusions in many sites, such as pericardium,² joint effusions,³ and the anterior chamber of the eye,⁴ the pathogenesis is uncertain. Some years ago we had the opportunity to perform cholesterol turnover studies in a patient with

cholesterol pericarditis⁵ and felt that the same technique might be applied in cholesterol pleural effusion. This report presents the results of radioactive cholesterol turnover studies in two patients with chronic pleural effusion, one with cholesterol crystals, and one without.

CASE STUDIES

Case 1: Cholesterol Pleural Effusion.

A 44-year-old white male was hospitalized at Little Rock Veterans Administration Hospital in March of 1970 for further therapy of rheumatoid arthritis. The patient had first been admitted in 1964, with a two-year history of episodic, symmetrical joint pain and swelling. Rheumatoid arthritis titer was 1:160. X-rays of involved joints showed no evidence of bony change. A subcutaneous nodule on the right forearm was biopsied, and was found compatible with a rheumatoid nodule. Aspirin controlled his symptoms.

Over the ensuing years, he developed typical changes of rheumatoid arthritis in wrists, hands, and feet, and multiple rheumatoid nodules. In 1969, he was forced to quit his job as a sawmill worker due to the arthritis. In 1970, he was admitted with severe foot deformities and an incidental complaint of dyspnea on exertion and right lower chest pain, aggravated by respiration. A chest x-ray revealed an effusion in the right base. Review of chest films dating to 1964 revealed that the x-ray was unchanged over that period of time. A PPD intermediate strength skin test showed no induration at 72 hours, and 1:100 histoplasmin skin test showed 18 mm. induration. Complement fixation studies for fungi were negative, and multiple sputum examinations for acid-fast organisms and fungi were also negative.

A thoracentesis revealed a cloudy fluid which had the appearance of gold paint (Figure 1). This was due to the presence of large amounts of crystalline cholesterol (shown in Figure 2). Cultures of the pleural fluid were negative for bacteria, acid-fast organisms, and fungi. Multiple thoracenteses were performed over a five-month period. Table I shows the physical characteristics and cholesterol content of the fluid. Following

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Figure 1.
Appearance of cholesterol pleural effusion. Chest aspirate has just been shaken to reveal "gold paint" appearance of the effusion so characteristic of presence of cholesterol effusions.

thoracenteses, the fluid continued to accumulate, and both the total cholesterol content and the quantity of crystals became less. Although the patient noted increased dyspnea with increase in fluid, and improvement in breathing when it was removed, he was unwilling to undergo pleurectomy in an attempt to eradicate the effusion. During this time, bilateral metatarsal head resections were performed, resulting in significant improvement in ambulation, and his symptoms were adequately controlled with salicylates.

Case II: Chronic Non-Cholesterol Pleural Effusion.

A 71-year-old white male was first admitted to the Little Rock Veterans Administration Hospital in January 1966, because of dyspnea on exertion, orthopnea, and 30 pound weight loss over a six-month period. He had a chronic cough, productive of 3-4 tablespoons of mucoid sputum daily. Physical examination revealed dullness over the lower one-half thorax bilaterally, and chest film confirmed bilateral pleural effusions. Venous pressure was 10 cm. of water and circulation time 16 seconds, arm to tongue.



Figure 2.
Microscopic appearance of cholesterol pleural effusion. Note the characteristic crystalline appearance of cholesterol. Note that size of most crystals exceeds that of RBC and WBC seen in out of focus background.

Intermediate strength PPD and multiple second strength PPD skin tests were negative, as were histoplasmin skin tests and fungal serologies. Needle pleural biopsy showed granulomatous inflammation. Special stains for acid-fast organisms and fungi were negative. Characteristics of the pleural fluid are shown in Table II. The patient was discharged on Isoniazid, 300 mg., and PAS, 12 grams, daily.

In April 1966 he was admitted because of increasing effusions and dyspnea. Multiple cultures of sputum and fluid from his previous admission were negative. He had bilateral palpable axillary nodes; the largest was 2 x 5 cm., biopsy of which shows "inflammatory granuloma". He underwent a right thoracotomy with decortication. The pleura was one-fourth inch thick and "cheesy". Sections revealed acute and chronic pleuritis and non-specific granulomatous inflammation. Stains for AFB and fungi were negative. Cultures of lung,

pleura, and fluid for AFB and fungi were negative. He was discharged on no tuberculous therapy.

In July 1966, he was re-admitted because of increased dyspnea. Studies on the previous fluid were again negative. On July 15, 1966, he was again started on Isoniazid and PAS. On August 23, 1966, he was given 50 microcuries of C¹⁴ labeled cholesterol orally for a radioactive cholesterol turnover study of blood and pleural fluid. The results of subsequent studies of the pleural fluid are given in Table II.

RADIOCARBON CHOLESTEROL TURNOVER STUDIES

Methods:

Both patients with pleural effusion were given an oral dose of 50 microcuries of C¹⁴-labeled cholesterol. Simultaneous specimens of serum and pleural fluid were obtained at frequent intervals up to 130 days. Specimens of serum were obtained

**TABLE I
CHOLESTEROL PLEURAL EFFUSION**

Date	Appearance	Quantity Removed	Chol. Crystals	Serum Chol. Mg/dl	Chol. Supernatant Mg/dl	Chol. Uncentrifuged Mg/dl	Protein Gm/dl	Sugar Mg/dl	Cell Count Cml	Differential
4/ 7/70	Cloudy, amber	30 ml	4+	—	—	—	6.2	25	2,200	
4/28/70	Cloudy, amber	100	4+	—	—	—	5.7	30	—	
4/30/70	Cloudy, yellow	40	4+	196	201	2,660	5.0	25	11,100	50% lymphocytes
5/ 1/70	Cloudy, yellow	25	4+	189	159	2,970	5.0	20	11,500	48% lymphocytes
5/ 4/70	Cloudy, yellow	40	3+	206	151	4,910	5.9	30	—	
5/ 6/70	Cloudy, yellow	30	3+	212	186	4,510	5.6	25	—	
5/ 8/70	Cloudy, straw	25	3+	203	172	2,660	5.9	18	—	
5/19/70	Cloudy, straw	15	2+	221	209	2,970	5.6	9	—	
6/ 3/70	Clear, straw	45	2+	234	189	2,160	5.0	36	—	
6/12/70	Clear, straw	40	2+	219	171	1,970	5.4	18	2,250	66% lymphocytes
6/26/70	Clear, straw	250	1+	238	172	1,860	5.7	22	1,800	87% lymphocytes
7/29/70	Clear, straw	50	1+	316	219	240	4.6	55	3,650	94% lymphocytes 6% eosinophils
9/ 8/70	Clear, straw	230	trace	297	219	240	5.4	54	4,100	100% lymphocytes

**TABLE II
CHRONIC, NON-CHOLESTEROL PLEURAL EFFUSION**

Date	Appearance	Quan. Removed Ml	Serum Chol. Mg/dl	Pleural Fluid Chol. Mg/dl	Prot. Gm/dl	Sugar Mg/dl	Cell Count Cml	Differential
1/28/66	Clear, straw	1000 ml			5.2	10	1000	100% lymphocytes
7/ 6/66	Clear, straw	700 ml			3.15	88	700	97% lymphocytes
8/23/66	Clear, straw	50 ml	207	65	3.25	13	15	100% lymphocytes
8/24/66	Clear, straw		209	65	3.75	46	25	100% lymphocytes
8/25/66			197	65	3.35	40	37	100% lymphocytes
8/26/66			205	62	3.25	40	33	100% lymphocytes
8/29/66			214	62	3.05	36	200	100% lymphocytes
9/20/66			194	58	3.35	30	3	100% lymphocytes
10/12/66	Clear, straw	50 ml	236	73	3.15	38	150	94% lymphocytes
10/21/66	Clear, straw	50 ml	244	73	3.25	14	100	95% lymphocytes
5/19/67	Clear, yellow	650 ml			5.20	14	300	98% lymphocytes
2/14/68	Clear, yellow	700 ml			2.90	40	Rare	100% lymphocytes

from centrifuged whole blood and analyzed for cholesterol by the method of Pearson, Stern, and McGavack.⁶ Pleural fluid was analyzed by the same method, both before and after centrifugation, in order to determine the contribution of cholesterol crystals to the total cholesterol of the fluid. Specific activity (counts per minute per milligram of cholesterol) of serum and pleural fluid was determined and plotted against time on semi-logarithmic paper.

RESULTS

Table I-A shows a comparison of the specific cholesterol radioactivity of serum and pleural fluid for the patient with cholesterol pleural effusion. Table II-A shows the same data for the patient with chronic non-cholesterol effusion. In the first case, in spite of the high cholesterol concentration due to crystals, the specific activity of the crystals was very low, and the contribution of the crystals to total radioactivity was only modest. Therefore, specific activity of the fluid was determined on the supernatant of centrifuged specimens. As has been noted by others, the cholesterol content of this fluid was generally less than, or about the same as, that of serum.

The serum and pleural fluid radiocarbon cholesterol turnover curves for patient 1, with cholesterol pleural effusion, are shown in Figure 3. The specific radioactivity (counts per minute per milligram cholesterol) is plotted on the ordinate, time on the abscissa.

Serum radioactivity was maximal on Day 1, and declined to a plateau in 35 days. Thereafter, it continued to fall gradually at a steady rate. Pleural fluid radioactivity was minimal on Day 1, and climbed to a plateau on 50 days. At forty-five days, serum and pleural fluid specific activities were essentially equal. From that point, both serum and pleural fluid radioactivity declined gradually at parallel rates. The dominant half-time (the time required for half the radioactivity determined to be present at zero time to disappear) of cholesterol in the serum and pleural fluid was 45 days.

The serum and pleural fluid radiocarbon turnover curves for patient 2, who had a chronic non-cholesterol effusion, are also shown in Figure 3. Again, specific activity is plotted on the ordinate and time on the abscissa. Serum radioactivity was maximal on Day 2, and declined to a plateau on

TABLE I-A
Serum and Pleural Fluid Radiocarbon Cholesterol Radioactivity, Cholesterol
Pleural Effusion

Sample Number*	Day of Study	Date	C.P.M./ml.	Cholesterol mg/dl	C.P.M./mg.
OS	0	4/28/70	0	—	0
1S	2	4/30/70	1772	181	979
1P			61	201	30
2S	3	5/ 1/70	1701	194	873
2P			75	159	47
3S	6	5/ 4/70	1243	206	603
3P			105	151	70
4S	8	5/ 6/70	1020	203	502
4P			116	186	62
5S	10	5/ 8/70	900	296	437
5P			145	172	84
6S	21	5/19/70	568	200	284
6P			224	209	107
7S	35	6/ 3/70	368	212	174
7P			227	189	120
8S	44	6/12/70	311	209	149
8P			248	171	145
9S	58	6/26/70	283	241	117
9P			248	172	144
10S	91	7/29/70	155	226	69
10P			93	219	42
11S	132	9/ 8/70	96	266	36
11P			75	219	34

* S = serum P = pleural fluid

+ Values shown represent the supernatant of centrifugal pleural fluid. Uncentrifuged determinations were higher in cholesterol content. (See table I and text).

20 days. Thereafter, it continued to fall at a steady rate. Pleural fluid radioactivity was minimal on Day 2, and climbed to a plateau in 29 days. At 50 days, serum and pleural fluid activities were equal. The study was terminated at 60 days because pleural effusion resolved. This prevented a plot of the subsequent course of the two curves, but it appears from the brief period of observation that both serum and pleural activity were continuing to decline at a steady rate.

The dominant half-time of cholesterol in the serum in this case was 22 days. Because of the gradual slope of the pleural fluid curve during the 60 days of observation, the radioactivity cholesterol half-time of the pleural fluid could not be determined. The shortened half-time in this case contrasts sharply with that of patient 1, even though the initial radioactivity in this case was much higher. The time required for equilibration of serum and pleural radioactivity was 10 days shorter than in case 1.

In comparing the turnover curves of these two patients, the following differences are noted: The patient with cholesterol pleural effusion had a much longer serum half-time (45 days compared to 22 days in non-cholesterol effusion). The time required to achieve a plateau in serum radioactivity was prolonged (35 days compared to 22

days). The time required for pleural fluid radioactivity to reach a plateau was prolonged (50 days compared to 29 days). The time required for serum and pleural fluid radioactivity to equilibrate was similar (45 days for cholesterol effusion compared to 50 days for non-cholesterol effusion).

DISCUSSION

Cholesterol pleural effusion is thought to be a non-specific entity which may be associated with many types of chronic pleuritis. The hallmark of this type of effusion is the presence of crystalline cholesterol which is responsible for the typical appearance of the fluid. These crystals are often present in effusion of high cholesterol content. In occasional instances, cholesterol crystals may be found in effusion of low cholesterol content⁷, and rarely crystals may not be present in effusions with a very high cholesterol content.⁸

The cholesterol is largely present in the form of complexes with alpha and beta globulins, and these lipoprotein cholesterol complexes are soluble. Jenkins and Doherty⁵ suggest that when fluids remain static for long periods that degradation of these complexes occurs, allowing precipitation of the free cholesterol. This is probably simply a physico-chemical process, not requiring cellular activity. When diffusion chambers are planted intraperitoneally in mice in such a way

TABLE II-A
Serum and Fluid Radiocarbon Cholesterol Radioactivity,
Chronic Non-cholesterol Pleural Effusion

Sample Number*	Day of Study	Date	C.P.M./ml.	Cholesterol mg/dl	C.P.M./mg.
OS	0	8/23/66	0	207	0
IS	1	8/24/66	3175	209	1519
1P			27	65	42
2S	2	8/25/66	4024	197	2043
2P			12	65	18
3S	3	8/26/66	4070	205	1985
3P			23	62	37
4S	6	8/29/66	2904	214	1357
4P			51	62	82
5S	8	8/31/66	2411	211	1143
5P			58	61	95
6S	18	9/ 9/66	1142	191	598
6P			107	56	191
7S	29	9/20/66	771	194	397
7P			133	58	229
8S	51	10/12/66	446	236	189
8P			148	73	203
9S	60	10/21/66	382	244	157
9P			146	73	200

* S = serum P = pleural fluid

+ Values shown represent uncentrifuged pleural fluid.

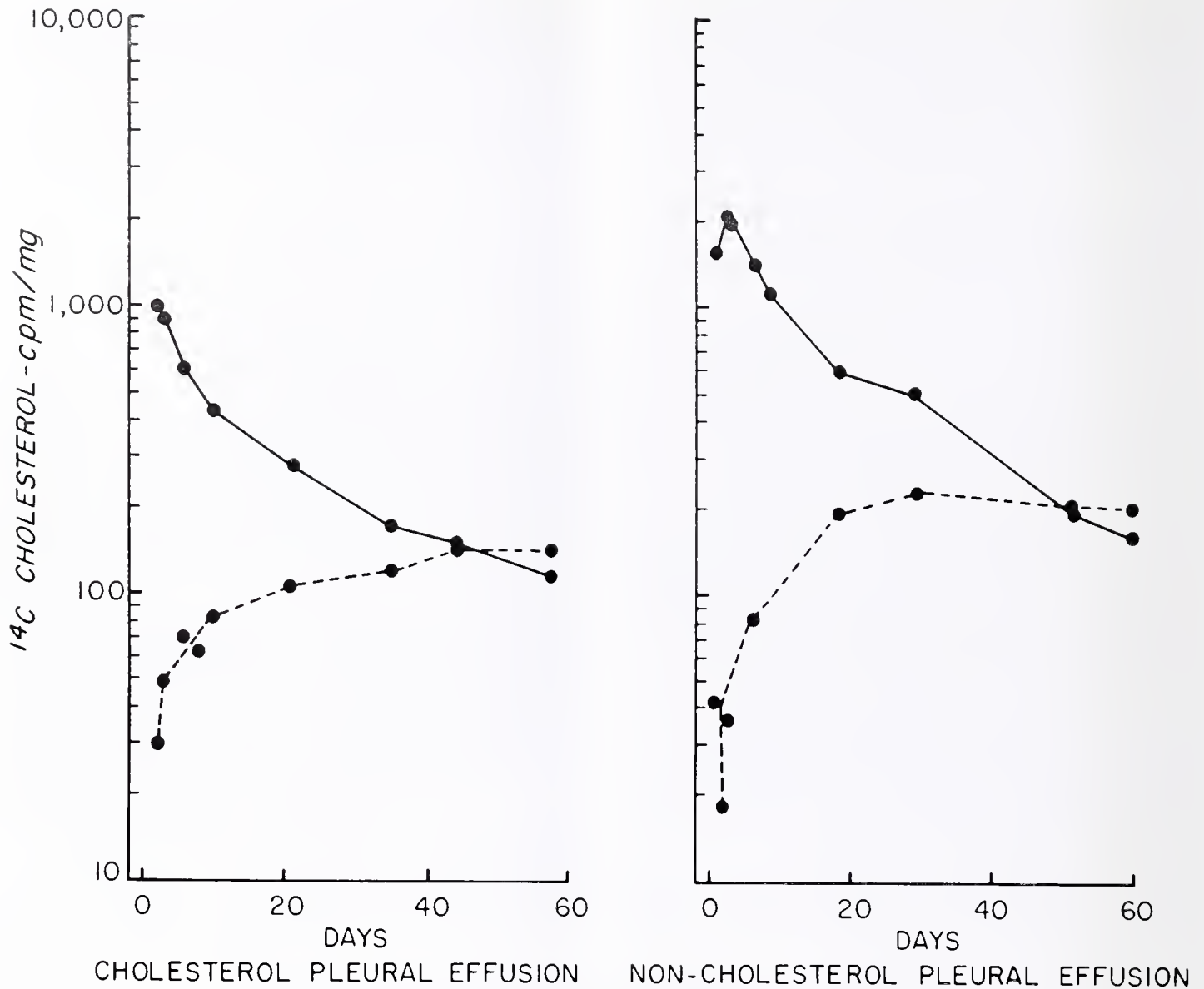


Figure 3. ^{14}C cholesterol turnover in pleural effusion. Specific radioactivity of cholesterol is plotted on the vertical axis, time on the horizontal. Cholesterol pleural effusion study is shown on the left, non-cholesterol effusion on the right. Note somewhat lower specific radioactivities are recorded in the cholesterol effusion patient serum and pleural fluid, together with more gradual slope of cholesterol serum curve indicating a larger serum $T_{1/2}$ (45 vs. 22 days). The time required for equilibration of serum and pleural fluid radioactivity is similar being 45 and 50 days.

as to be separated from cellular elements, cholesterol crystals accumulate⁹ lending credence to this idea.

The origin of the increased cholesterol in chronic effusions is not clear. Coe and Aikwa¹⁰ were not able to demonstrate synthesis of cholesterol de novo from C^{14} labeled acetate injected intrapleurally into cholesterol effusions. They did not find that C^{14} labeled cholesterol injected into the pleural space left the cavity very slowly, although their studies in this regard were inconclusive, due to the low concentration of radioactivity in the samples. They also attempted to demonstrate a pleural barrier to diffusion of cholesterol by injecting ^{131}I labeled albumin intravenously and determining its rate of appearance in the pleural fluid in both acute and chronic effusions, and in two cases of cholesterol effusion. They found that

while the serum and pleural fluid radioactivity equilibrated in about five days in the effusions of short duration, the equilibration time was longer in both the cholesterol and chronic non-cholesterol effusions (15 to 21 days respectively).

Our studies suggest that transport or orally administered radioactive cholesterol into chronic effusions is delayed and that transport into the cholesterol effusion is even more prolonged. Equilibration of serum and pleural fluid radioactivity in the non-cholesterol effusion required 50 days, and in the cholesterol effusion 45 days. Likewise, there was significant measurable activity in both fluids 60 days, and in the cholesterol effusion even after 130 days. We conclude that there is delayed transport both into and out of the thickened diseased pleura, and that in the resultant, rather static fluid, accumulation of cholesterol protein

complexes occurs. In occasional cases, the stasis allows time for physico-chemical degradation of the complexes, and precipitation of the crystalline cholesterol.

In these effusions, as noted by others, cellular elements are abundantly present, and one wonders why the cholesterol crystals are not removed by phagocytic activity, as has been demonstrated to occur *in vitro*.⁸ Brawley, et al² suggested that their phagocytic ability is impaired by the primary disease process causing the pleurisy, or that perhaps the cholesterol crystals are simply too large to be phagocytosed.

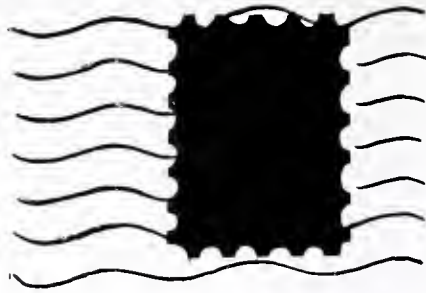
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LETTERS TO THE EDITOR

Third Party Determination of Fees For Service by Blue Shield

Kenneth G. Jones, M.D.*

Even though we may now be living and laboring in a period in history, which within a few years may be recognized as the twilight era for free enterprise in America and possibly the World, we yet have the right to defend that system should we become aware of a need to do so. Most of us can now appreciate that the continuation or termination of our existence as free men will be determined by the course those who now control The Government succeed in navigating. But freedom may also be attacked from within the private sector when a part, thereof, is aided and abetted to that end by government, directly or indirectly, overtly or covertly. Physicians will find they are no less free whether their fee for services is determined by government or by a powerful private organization — specifically Blue Shield. Freedom is, in the truest sense of the word: "The opportunity for one man, among all men, to direct the use of the product of his moral effort to whatever end he may desire so long as he does not plunder other men." Neither confiscatory taxation to satisfy the alleged need of other voters nor control a man's livelihood under any guise is freedom. As physicians, in the private enterprise system, we should be interested in any change programmed by the third party carrier that until now has been awarded a favored status by most physicians. A review of principles is fitting.

Any physician, private or otherwise, who accepts a person as a patient also accepts a moral obligation to do all within his power to mitigate the

medical problem given to his charge. This obligation continues until terminated by any of the several means recognized as ethical. For this service, those physicians who have made it known that they are engaged in a private practice of medicine, have a right to charge a fee to the patient but not to anyone else. This fee is for medical services and may be determined between the physician and the patient before or after the services are rendered as they may agree. Though third parties now intermingle in this relationship with an ever increasing frequency, the patient and the physician should not lose sight of their basic relationship.

Third parties do not owe the physician a fee nor does the physician owe a third party anything unless they should find a common ground for trading services. Until now most physicians have filed reports and forms for their patients and their patients' carriers in order that those parties might settle any obligation which may exist between them. This act is a service the physician and his staff renders in addition to the primary medical services. It is in reality an economic service for the patient and for the carrier. In a private economy, the physician has a moral right to be compensated for this added service. Time and expense are involved and not all of his patients will request this added service. He should not, therefore, adjust the medical fees for all of his patients to satisfy this non-medical service requested by some. The charge should be made to the party desiring that special service. For example, an attorney who re-

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quests a medical report from a physician on which to base his pursuit of litigation, should be sophisticated enough to anticipate a fee from the physician for this medico-legal service. The attorney's relationship with his client is not a legitimate concern for the treating physician.

As regards to the matter of compensation for completing Blue Shield forms, until now, the physician has been adequately compensated. The patient has been free to assign his benefits directly to the doctor with the understanding that the benefit would be sent to his physician and credited to his bill. If there was any excess, it would be returned to the patient. The physician was compensated for this service by receiving the assignment from the patient. Until now Blue Shield has complied with that assignment and has sent the check directly to the physician relieving him of a potential risk. Once again the physician is compensated for the service of having transmitted the completed form to the carrier who desired and needed the information provided. The physician, in return, was compensated by the carrier with a service from the carrier for his service to the carrier. Truly this arrangement constitutes a symbiosis for the doctor and the carrier — both have profited.

But now we are informed by Blue Shield that this trade for services will no longer be acceptable to them, *unless the physician agrees to accept their UCR fee as total compensation*. That is, if he enters into an assignment with the patient, his economic fate is to be placed in the hands of Blue Shield . . . clearly an unnecessary intrusion of the third party between the physician and his patient. True he is free to handle this on a patient-by-patient basis, but few physicians will find that they have the time necessary to determine on an individual basis whether or not their proper interest is being served. The amount of the fee offered as inducement is irrelevant since once the principle is accepted, control is established by Blue Shield and that fee could be changed on a day-to-day or any other basis. Having sacrificed principle, the

physician would have only the amount of the fee to argue over and he would lose that argument.

Even so, we should not question whether or not under the free enterprise system Blue Shield and the patient have a right to engage in a UCR system. Clearly they do have such a right, even though it may be unwise for them to do so. What we, as physicians, need to recognize is that under those circumstances we would no longer find it profitable to trade services with Blue Shield or other carriers who would surely follow their lead. Quite obviously, they no longer have an interest in our welfare; their interest is a continuation in their earlier effort to establish a UCR policy (fee control). We do not fail in our medical obligation when we choose not to trade with a third party contrary to our legitimate interest.

Consequently the proper course for those interested in prolonging the free enterprise concept is: "To no longer endeavor to trade (barter) with Blue Shield." There is neither a moral reason nor an economic justification for physicians in private practice to continue to supply Blue Shield with the information we have traded to them in the past. Though they may obtain this information from other sources, we have no other moral recourse.

The patients should continue to be told the diagnosis and the treatment as in all medical situations.

As regards the patients' financial interest, especially one who wishes to be responsible for his obligations, he would continue to be free to settle with his physician before the third party form is completed. In that event, any reasonable physician should be pleased to trade the service of filling out the patient's third party form for the benefit he has just received from the patient. Thereby the onerous fee control mechanism Blue Shield is endeavoring to establish would be negated.

As demonstrated many times in history: "When resisting oppression men hang together or they hang alone."





Office Orthopaedics

Common Peri-Patellar Inflammatory Conditions

C. Frank Dodson, Jr., M.D.*

With the advent of increasing emphasis on participation sporting pursuits in all age groups and degrees of physical conditioning, inflammatory disorders of the extensor mechanism of the knee are noted with increasing frequency. However, these conditions are not only found in athletic individuals, but may result from repetitive use of the knee in occupational endeavors or from direct trauma. The severity of both symptoms and physical impairment to the patient are usually mild early in the course of the condition, but left untreated, may progress to produce significant functional disability. Most of the affections may be simply treated in the early stages with activity curtailment, anti-inflammatory medications, splinting and physical therapy. Severe or recurrent cases may require surgical intervention to effect definitive treatment.

JUMPER'S KNEE (Patellar Tendinitis)

This localized inflammation classically occurs in athletes participating in sports requiring running and/or jumping, and usually presents with poorly localized aching pain about the knee. Clinical findings are usually definite and reproducible — exquisite localized tenderness to palpation is present at the inferior pole of the patella, although the superior pole may be similarly affected. X-rays are classically within normal limits, but may show bony irregularity at the affected patella pole and/or calcification of the adjacent patellar tendon. Appropriate treatment depends on the severity of the condition — ice pack massage to the affected area after activity, warm pack application before athletics, oral anti-inflammatory agents for adults, and occasionally, steroid injections

at the site of maximal tenderness (realizing the associated increased risk of tendon rupture with these injections) and surgery for difficult and severe cases. This condition has been well reviewed by Dr. Martin Blazina, et. al.¹ (Fig. #1)

PRE-PATELLAR BURSITIS ("Housemaid's Knee")

Inflammation of the pre-patellar bursa classically occurs in an adult whose occupation requires the kneeling posture, but may result from a single traumatic blow to the anterior aspect to the knee. The site of maximal swelling is located directly anterior to the patella, but may bulge both medially and laterally to the patella in extreme cases; the presenting complaint frequently stems from the presence of a persistent mass rather than pain. X-rays usually show no bony abnormalities, but a fluid density soft tissue swelling anterior to the knee cap may be apparent on the lateral view; in rare cases, bursal calcification may be noted. Primary treatment consists of elimination of the

JUMPER'S KNEE



Figure 1.

Little Rock Orthopedic Clinic, P. O. Box 5270, Little Rock, Arkansas 72215.

chronic kneeling position or sufficient cushioning of the anterior aspect of the knee to preclude chronic irritation. Aspiration of the cyst contents for diagnosis and symptomatic relief is usually indicated and should be followed by a compression dressing and splinting with the knee in a slightly flexed position. Oral anti-inflammatory agents frequently are adequate for treatment, but occasionally injection of a steroid preparation directly into the cyst following aspiration may be required. In cases which are recurrent and the bursa becomes thickened and boggy, surgical bursectomy may be indicated. (Fig. #2)

INFRAPATELLAR BURSITIS

The infrapatellar bursa is anatomically situated posterior to the patellar ligament, anterior to the tibial tuberosity and inferior to the infrapatellar fat pad. Bursitis resulting in an effusion of this bursa may present as two areas of cystic swelling on either side of the patellar ligament, just inferior to the patella. Pain on knee extension may be the presenting complaint as the fullness prevents smooth excursion of the extensor mechanism. Recommended therapeutic measures are similar to those as noted above for pre-patellar bursitis.

OSGOOD-SCHLATTER'S DISEASE (Apophysitis of the Tibial Tubercle)

This condition occurs in active adolescents, usually males aged 10-15 years, and affects the distal portion of the patellar ligament and the tibial tubercular apophysis. The patients initially notice localized pain over the anterior-inferior knee region which is made worse by running, especially on inclines or stairs. Clinical examination reveals

exquisite tenderness to digital pressure over the tibial tubercle and roentgenograms may reveal bony fragmentation and enlargement of the developing traction apophysis with overlying soft tissue swelling. Treatment should be similar to that of jumper's knee, except that local injections of steroid preparations are rarely, if ever, indicated. The condition may be recurrent until closure of the apophysial growth center occurs, but most cases resolve at bony maturity and surgery is rarely indicated. (Fig. #3)

CHONDROMALACIA PATELLA

Although this malady occurs intra-articularly within the knee, the symptoms may mimic some of the previously noted extra-articular conditions. It usually affects young, healthy patients who are active. It usually presents with "pain under the knee cap". The pain is described as aching, dull and intermittent, and is more frequent in adolescent girls with poor quadriceps development and genu valgum. Frequently, chondromalacia patella is associated with lateral subluxation in the patella, and when the combination is present, the patients may be troubled with patellofemoral crepitus and momentary catching or giving-way. Physical signs include pain and/or crepitus on patellofemoral compression (knee in extension), tenderness to palpation along the medial border of the patella; and if subluxation is present, the "apprehension test" (Fairbanks) of pushing the patella laterally in the femoral trochlear groove causing patient anxiety is usually positive. Plain x-rays are usually within normal limits. Conservative treatment includes cessation of inciting activities, quadriceps rehabilitation (principally with isometric exercises), oral aspirin administered four times daily for one to two months; or other anti-

PRE-PATELLAR BURSITIS

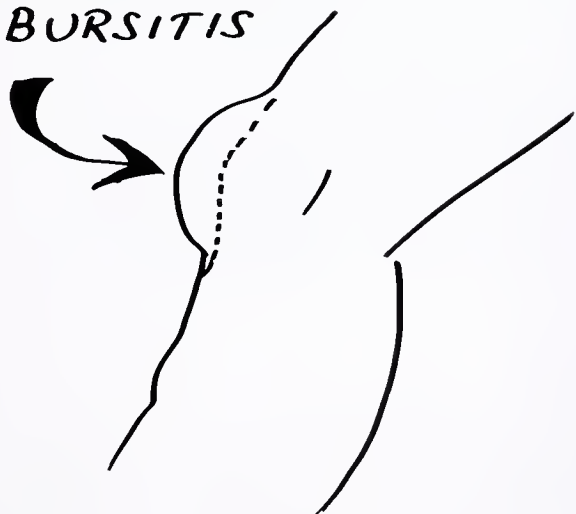


Figure 2.

OSGOOD-SCHLATTER'S (TIBIAL TUBERCLE APOPHYSITIS)



Figure 3.

inflammatory agents may be tried. Splinting or bracing with hinged orthosis may be efficacious, especially in adults. Cortico steroid preparations in any form are not usually indicated. In the severe recurrent cases, a surgical intervention may become necessary.

ARTHRITIS OF THE PATELLOFEMORAL JOINT

Clinically demonstrable and radiographically apparent arthritis of the patellofemoral articulation occurs usually in the adult population and may result from either primary arthritic disease or secondary to significant trauma, such as fracture or recurrent dislocation of the patella. Normally the general health and age of the patient taken together with pertinent history will aid in differentiation from other causes of peri-patellar symptoms. Most often, the femorotibial joint is also affected with arthritis, but there may be a significant disparity in the severity of the disease process between the two adjacent articulations of the knee. The co-existence of patellofemoral arthritis and regional bursitis must be considered.

SUMMARY

A brief discussion of the several common affections of the patella and its adjacent structures

has been presented. In most instances, precise diagnosis depends more heavily on accurate history and physical examination than on roentgenographic findings. Most of the conditions respond favorably to rest, oral anti-inflammatory drugs and physical therapeutic measures, but in those unresponsive to conservative measures, surgical management may be required.

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ELECTROCARDIOGRAM

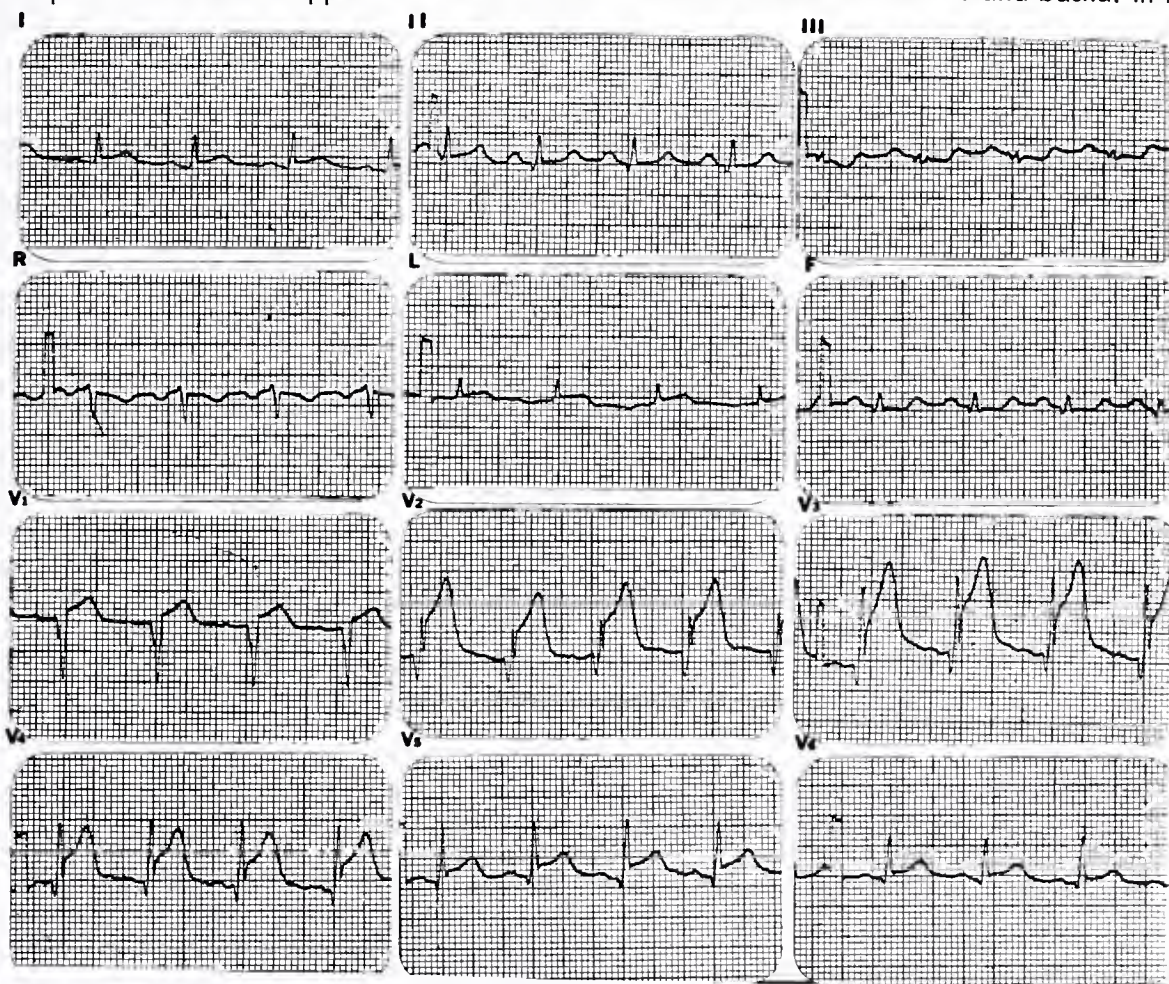
OF THE MONTH

The Department of Cardiology, University of Arkansas College of Medicine

(See Answer on Page 338)

HISTORY: Mr. J. is a 59-year-old white male who has presented to the emergency room with the chief complaint of chest pain. Essentially, the patient had been in his usual state of health until two hours previously when he experienced the abrupt onset of crushing substernal chest pain of an unremitting nonpleuretic character with radiation to his jaws. The patient has a past history of hypertension and is a smoker. His physical examination reveals him to be diaphoretic and in distress. The blood pressure is 100/50 mm of Hg and his pulse is weak at a rate of 100 per minute. Mr. J.'s neck veins are flat, but he has bilateral basilar rales together with an S3 gallop. No friction rubs are appreciated. A chest film is consistent with pulmonary edema. His ECG is shown. Which of the following remarks are true and which are false about this particular case?

1. The patient should have immediate insertion of a temporary pacemaker.
2. Ventricular function rather than conduction disturbance manifested by various degrees of AV block will most likely determine intermediate and long term prognosis.
3. Pericarditis rather than myocardial infarction is the most likely diagnosis.
4. The patient's infarction appears to be anterior and lateral rather than inferior and basilar in location.



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Rewarding Efforts of Arkansas Physicians

Shelly English*

Nature may give the newborn the gift of temporary immunity, but it was through the conscientious efforts of Arkansas physicians that many children are now protected against vaccine-preventable diseases.

The Arkansas "Every Child" Task Force is pleased with the success of their campaign. The individual antigen level has been raised significantly in one year from seventy-five percent in 1977 to ninety-four percent in 1978.

During the Fall of 1978, a survey was taken to gather data on the immunization levels of school children and preschoolers. Results indicated that of the 435,066 children in school or child-care facilities, eighty-nine percent of them are adequately immunized against everything except mumps. Adequate immunization means three or more doses of DTP/Td vaccine, three or more polio, one measles, and one rubella.

A random survey of two-year-olds conducted in August and September of 1978 reviewed the immunization records of 496 children. Statewide, seventy-two percent of all two-year-olds are adequately immunized. However, only forty-three percent of these children had received the mumps vaccine. Obviously, a great deal more needs to be done to raise the immunization levels (especially for mumps) to the target goal of ninety percent by next Spring.

Indifference is as dangerous as any of these diseases. A dramatic demonstration of the problem can be related to the incidence of measles. Prior to 1964, when the measles vaccine was introduced, ninety-four percent of all adults contracted measles.

In 1968 only two cases of measles were reported in Arkansas. Then, in 1971 there were over 750 cases because of complacency. Unfortunately, people often have to be frightened into taking the

necessary preventative measures. The incidence of measles in Arkansas see-sawed from one case in 1975 to thirty-six in 1977.

Diseases transferred person-to-person *can* be wiped off the face of the earth. October 26, 1977 marks the date of the last known case of epidemic smallpox, which occurred in Merka, Somalia. The one case of laboratory associated smallpox reported in October of 1978 does not affect the World Health Organization's plan to certify that smallpox has been eradicated worldwide.

Since the reservoir of all vaccine-preventable diseases is man, there is no reason why the same results cannot be achieved with measles, mumps, and rubella. When the system of disease surveillance and assessment can reach one-hundred percent of newborns with the assurance that they will be adequately immunized, the Immunization Initiative can be labeled truly successful.

To that end local hospital auxiliaries will make personal visits to all new mothers, giving them immunization and health records. This will serve as a reminder that at two months babies should be taken to their personal physician or local health department for immunization.

Private physicians are encouraged to review immunization records of pediatric patients. Also, check the immunization status of a child regardless of the purpose of their visit, administering a vaccine when necessary.

Single mumps vaccine and M/M/R combination vaccines are available from county health units free of charge for preschool children.

School and other captive audience children appear to be in fairly good shape. In order to reach the National Initiative objectives, the number of children adequately immunized must be raised by one and four-tenths percent.

The continued support of all Arkansas physicians is essential to raise immunization levels so

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ARKANSAS PUBLIC HEALTH AT A GLANCE

ARKANSAS STATE IMMUNIZATION ASSESSMENT, FALL, 1978

COUNTY/DISTRICT/SCHOOL/FACILITY	TOTAL NUMBER STUDENTS ENROLLED	TOTAL & PERCENT ADEQUATELY IMMUNIZED		NUMBER AND PERCENT ADEQUATELY IMMUNIZED BY DISEASE									
				DTP/Td*		POLIO		MEASLES		RUBELLA		MUMPS	
		NUMBER	%	NUMBER	%	NUMBER	%	NUMBER	%	NUMBER	%	NUMBER	%
STATE TOTALS													
Public Schools	435066	385799	89%	413897	95%	410879	94%	409140	94%	397203	91%	53138	12%
Private Schools	12889	11452	89%	12111	94%	11993	93%	12028	93%	11988	93%	4923	38%
Day Care	12018	10949	91%	11361	95%	11329	94%	11094	92%	11093	92%	7566	63%
Family Homes	1341	1152	86%	1269	95%	1262	94%	1181	88%	1178	88%	815	60%
Head Start	3454	2911	84%	3103	90%	3079	89%	3139	91%	3092	89%	1348	39%
State Supported	2903	2390	82%	2758	95%	2718	94%	2570	89%	2486	86%	655	23%
Grand Total	467671	414653	89%	444498	95%	441260	94%	Average 94%	94%	427040	91%	68445	15%
(1977 Results	478380				78%		75%		74%		73%)	
Enterers only (K or 1st)	32103	30505	95%	30988	96%	30906	96%	Average 75%	97%	31264	97%	8017	25%
Two-year-old Randomized Survey	496	356	72%	408	82%	405	89%	389	78%	384	77%	215	43%

*DTP/Td - DIPHTHERIA/TETANUS/PERTUSSIS or TETANUS/diphtheria
Arkansas Department of Health CD:IMM-18 (August, 1978)

that ninety percent of all preschoolers are adequately immunized in accordance with the National Initiative objective. Approximately ninety thousand Arkansas preschool children need to be

found and immunized for mumps by next Spring.

Diseases which have, in the past, brought crippling or death to many Arkansas children can be completely eradicated with proper immunization.





EDITORIAL

Receptors and Cancer

Alfred Kahn, Jr., M.D.

Steroid hormones are now known to attach to their target cell by receptors. The receptor, so to speak, acts as a coupling agent. If a target cell lacks a receptor, then presumably the specific hormone would not affect that cell. This matter of presence or absence of a receptor becomes clinically quite important.

Snochowski, Pousette, Ekman, Bression, Andersson, Hogberg and Gustafsson have published an article entitled "Characterization and Measurement of the Androgen Receptor in Human Benign Prostatic Hyperplasia and Prostatic Carcinoma" (*Journal of Clinical Endocrinology and Metabolism*, Volume 45, page 920, November, 1977). As they point out, the prostate gland does not mature or function normally unless it is stimulated by androgens. Presumably, the prostate gland cells transform testosterone to 5-A dihydrotestosterone; this latter substance, with the protein receptor to which it is bound, then gets into the prostate cell nucleus where it exerts certain changes in the function of the cell. It has been discovered that a synthetic androgen methyltrienolone specifically binds to prostate cell androgen receptor, thus giving a tool for investigation of the receptor.

Snochowski et al used radioactive methyltrienolone (abbreviated as 3 HR 1881) to study human prostates. They demonstrated that 3 HR 1881 was bound to a macromolecule in the cytosol of human prostate cells. The receptor was heat labile and other androgens only seemed to be competitive for this receptor. They studied the prostatic tissue taken from 9 patients with non-malignant hypertrophy. Of the 9 patients, only 6 had measurable amounts of receptor; the authors speculate the receptor may have been blocked by endogenous androgens. It is possible that in certain cases electrocoagulation may have injured the heat labile

receptor. Several patients with prostatic cancer were studied using 3 HR 1881; a case with poorly differentiated prostate cancer showed a high receptor capacity; a case of well differentiated cancer of the prostate also showed receptors, but much less. Snochowski and his team felt that the presence or absence of androgen receptors will probably be a guide to whether or not that individual patient will be sensitive to endocrine treatment. Furthermore, the magnitude of receptor presence may give a quantitative prediction of sensitivity — rather than just a yes or no answer.

The relation of breast cancer to hormones is the subject of a short paper by Albert Segaloff in *Archives of Internal Medicine* (Volume 137, page 1603, November, 1977). With a diagram and a text Segaloff describes how steroid hormones get into cells by diffusion or active transport where they are then bound to a protein receptor. The receptor-hormone complex is then, so to speak, translocated into the nucleus, either altered or unaltered chemically. The receptor is said to consist of two portions: A fragment which causes the synthesis of messenger RNA and a B fragment which binds to chromatin — but to DNA as does the A fragment. Segaloff states that when the hormone and the nuclear receptor separate physiologic intracellular activity stops. The steroid is then excreted. Segaloff postulates that when a steroid gets into a cell it may set the stage for another hormone to become functionally active in the cell. Segaloff discussed the intracellular physiology in terms of breast cancer. The results in breast cancer — of trying to use hormones to affect the cancer — are not clear cut at this time. For example, theoretically, a cancer of the breast with receptors for steroid sex hormones might be expected to regress if the estrogen stimulation by sex hormone is removed. This does not work in a

completely logical, predictable fashion, according to Segaloff; he states that the reason for the somewhat unpredictable results in measuring estrogen receptors as a basis of hormone therapy is that the breast cancer cells may have multiple receptors—and all of the receptors have to be considered in a

treatment role as estrogens, prolactins, progestins, etc.

The study of receptors promises to be a real step forward in our understanding of cellular mechanisms. Later the knowledge from this type of investigation may help in dealing with cancer.



MEDICINE IN THE



THE MONTH IN WASHINGTON

Stringent controls and across-the-board budget cuts will be the order of the day for the coming 96th Congress. President Carter has announced that his anti-inflation program will be the top domestic priority and such sentiment appears to be wide-spread among returning members.

The Administration's initial thrust in the health area will be its demand for the hospital cost containment program that was blocked in the last Congress. In addition, it is expected that the President's chief selling point for his brand of national health insurance (NHI) will be its alleged ability to hold down inflation in the health care sector.

In an important policy address before the National Press Club, Joseph A. Califano, Secretary of the Health, Education and Welfare Department, warned that if liberals want federal social programs to survive, they must concentrate on better management of those programs rather than on their expansion.

"It was the challenge of Liberalism in the Sixties to enact long-delayed and much-needed social programs," Califano said. "It is the challenge for Liberalism in the Seventies to manage these programs well."

"As we come to the close of the Seventies, the challenge for the American Liberal is the challenge of austerity," Califano said.

There is a management revolution underway in Washington, the HEW Secretary said, an "effort to make compassionate programs work efficiently."

He said it is essential for Liberals to recognize that times have changed, that "the self-confidence of the Sixties has been replaced by a mood of caution, wariness, and skepticism."

Califano didn't say where the economic ax will fall at HEW except to note some long-standing targets such as impacted federal aid for schools and the hospital cost containment plan. Of the latter, he said House Speaker Thomas O'Neill (D-MASS.) has promised early House action next year. "We will drive that legislation through next year," he said.

* * * *

While Secretary Califano and the Administration appear to be unalterably opposed to private sector voluntary efforts to reduce inflation and adamantly in favor of mandatory wage and price guidelines for the health sector only—via hospital cost containment and NHI—other views are being expressed in Washington.

A Washington symposium of national business and health leaders, during a briefing of how voluntary cost containment is working in hospitals and among physicians, heard AMA Executive Vice-President James H. Sammons, M.D., urge the federal government not to interfere and "play games with the nation's health".

Speaking at a think-tank session in Washington, D. C., sponsored by Arthur D. Little, Inc., Dr. Sammons said to some extent the problems currently facing the health care industry have made providers "victims of our own success." He pointed to the highest quality of care in the world

in this country and the rapid explosion of medical technology since World War II.

Health care is going to be expensive and the question must be asked whether benefits can be expanded without costing more money, said the AMA official. Much talk has been bruited about the percentage of health in relation to the Gross National Product.

"Is 8.6 percent too much or too little? What is an intelligent yardstick?"

He suggested that medical people make medical decisions, such as who qualifies for renal dialysis. "Let's be sure we know what we're doing when we do it."

Dr. Sammons said the Voluntary Effort is succeeding on several fronts and that prospects for the future look good and "America's physicians are playing a leading role in our society's quest to keep medical costs within reason."

He noted "the dimensions . . . and the dangers . . . of certain governmental proposals to slap arbitrary and ill-considered cost ceilings on our medical system."

"Most people, including most people in government, realize that when it comes to fashioning enlightened and enduring answers to complex problems the private way is by far the better way."

Paul W. Earle, Executive Director of the Voluntary Effort, said VE is a unique national coalition formed by physicians and hospitals to voluntarily contain health care costs.

It marks the "first time we have done it in the industry on a coalition basis." Often the groups "fight among themselves but we are now joining together on major tasks."

Earle said this is the "only industry that has responded with a massive, nationwide effort to President Carter's call for voluntary restraint—ironic inasmuch as the Administration has called for voluntary restraint but is pushing for wage and price controls for hospitals."

The National Steering Committee is led by the AMA, American Hospital Association and the Federation of American Hospitals.

"And we are getting results anyway you measure it," Earle said, noting the following "rate of increase" statistics:

1976	19.1%
1977	15.6
1st half of 1978	12.8

"Industry is doing the job, demonstrating its

responsibility and we don't need the federal government telling us what to do," he asserted.

Dr. Sammons noted that the rate of increase in hospital expenditures through the first seven months of 1978 was 12.8 percent, well below the 1977 rate of 15.6 percent and the lowest since 1974 when federal wage and price controls were ended.

Dr. Sammons estimated that Voluntary Effort has saved \$900 million in hospital costs in the fiscal year ending in September, 1978. He further estimated that it will save \$44 billion by the end of 1983.

* * * *

Government health planners are considering a "productivity standards" system to examine the efficiency of physicians and hospitals.

HEW Secretary Califano said such standards could cut unnecessary surgery, make better use of expensive machinery and shorten hospital stays.

"I recognize that we must proceed with great care in attempting to set standards regarding health care productivity," he said. Any such move should not infringe on physicians' relationships with patients, he said. The National Health Planning Council was asked to begin "careful consideration of the issues raised by productivity standards."

Califano did not go into detail about minimum productivity standards in a speech at the annual meeting of the Institute of Medicine, a branch of the National Academy of Sciences.

"A concern with productivity presumes a strong doctor-patient relationship characterized by human caring," he said, noting that physicians, economists, professional standards groups, hospitals, nursing homes and other medical facilities would contribute to the set of standards.

With the "moonshot age" of complex medical technology and refined special skills have come the problems of unnecessary medical procedures and a proliferation of facilities which are underutilized, said Califano.

He noted that in 1975 there were more than three hospital workers per patient in this country while the ratio in West Germany was one-to-one and two-to-one in Great Britain.

According to the Secretary, nurse practitioners and physician assistants "could handle more than 50 percent of patient visits for primary care problems more economically—at least in certain settings—than doctors."

* * * *

A broad-based coalition of health and environmental groups aimed at disease prevention was proposed by Rep. Paul Rogers (D-FLA.) who declared he's convinced the coalition will perform a valuable role in informing the public.

The tentatively-titled National Coalition for Disease Prevention and Environmental Health held its first strategy and organizational meeting in Washington, D. C. with 30 groups forming an organizing committee. Rogers told representatives of these and other groups that he intended to play an active role in supporting the Coalition, but he apparently will not head it. Rogers, retiring this year as head of the House Commerce Health Subcommittee, said he would announce his future private role shortly, but would serve the Coalition "for free".

Some 140 national groups have expressed an interest in joining the group, according to Rogers. The educational and information exchange functions of the Coalition will be critical, he said. The organized groups would survey food, the safety of consumer products, the purity of air and water, the safety of the work place, and strive for a "less stressful society."

* * * *

The Health Maintenance Organization (HMO) program, one of the few major health bills of the last congressional session to secure enactment, has been signed into law by President Carter.

The measure, a prime goal of the Administration, provides a three-year extension, with certain amendments to the HMO proposals.

The bill authorizes \$31 million, \$65 million, and \$68 million for the next three fiscal years.

The maximum amount of an initial development grant that can be made was increased from \$1 million to \$2 million beginning in fiscal year 1980.

The government can make loans and loan guarantees for the acquisition or construction of ambulatory health care facilities and for the acquisition of equipment. Loan guarantees to private HMOs can only be for projects that will serve medically underserved populations. The loans made or guaranteed for an ambulatory health care facility cannot be more than \$2.5 million.

An ambulatory health care facility was defined to mean a health care facility for the provision of diagnostic, treatment, and prevention services to ambulatory patients.

The bill provides that beginning four years after an HMO becomes qualified it may not enter into contracts with physicians other than members of the HMO staff, medical groups, or individual practice associations if the amounts paid under these contracts for basic and supplemental health services provided by physicians exceed 15 percent of the total estimated amount to be paid by the HMO to physicians for the provision of basic and supplemental physician services. The percentage is increased to 30 percent if the HMO principally serves a rural area.

* * * *

The AMA has announced that it will challenge and immediately appeal a ruling of a Federal Trade Commission Administrative Law Judge that charges the Association with restraining physician advertising and restraining physician participation in certain health delivery systems.

"The most shocking and pervasive attack on professionalism found in Judge Ernest G. Barnes' ruling is, 'Respondents (AMA) will be permitted to participate in setting ethical guidelines for the conduct of their members, after first obtaining the permission and approval of the FTC,' " said Robert B. Hunter, M.D., Chairman of the AMA Board of Trustees.

"We don't feel that lawyers, dentists, engineers, and other professionals, labor unions, business entities, charitable organizations, state and local governmental entities should have to ask the Federal Government if they can issue ethical guidelines to their members and what those guidelines should say.

"It has been clear throughout the entire proceeding that the AMA is clearly in favor of physician advertising and a free flow of public information about health care services," Hunter continued. "We are opposed to false, and misleading advertising and its adverse impact on the quality of health care available to patients."

Testimony presented during FTC hearings on the advertising issue has shown that misleading advertising has led patients to inadequate and harmful treatment.

"The current abortion issue in Chicago acts as an excellent example of misleading advertising that the Association opposes."

Judge Barnes' ruling came in a case brought to the Commission three years ago against the AMA, the Connecticut State Medical Society and the New Haven County (Conn.) Medical Association.

The FTC contended that the three organizations agreed to prevent or hinder physicians from advertising and engaging in competitive practices.

* * * *

President Carter has vetoed legislation to extend federal aid for nurses' education for two years with a \$400 million authorization. The American Nurses Association said his action was "discriminatory" and "short-sighted."

The measure had passed the Senate by a unanimous voice vote and was approved by a 393-12 House tally. President Carter previously had vetoed a measure that would have cut off nurses' education aid, but Congress later overrode the veto.

In a brief message, Carter said prospects are for sufficient nurses without the need for federal support. "At a time of urgent need for budget

restraint we cannot tolerate spending for any but truly essential purposes," the President said.

* * * *

A member of the Federal Trade Commission has said the Commission has uncovered a "litany of abuses and of chicanery in the nursing home industry that is too large to ignore," and may propose a crackdown.

"Our preliminary investigation at the FTC revealed instances in which a nursing home was charging drug prices 24 percent higher than those charged by independent pharmacies," said Elizabeth Dole.

Mrs. Dole, wife of Senator Robert Dole (R-KANS.) told the 1978 Indiana Governor's Conference on Aging that the Commission is considering issuing a trade regulation rule for the industry to require, among other things, exact disclosures of prices and services.



THINGS TO COME



REPRODUCTIVE MEDICINE SYMPOSIUM

The University of Tennessee Center for the Health Sciences College of Medicine, Memphis, will present the Fourth Annual Reproductive Medicine Symposium on "Use of Sex Steroids in Clinical Practice". The symposium will be held in the Holiday Inn — Rivermont in Memphis, May 7 through 9, 1979. The course is approved for twenty cognate hours by the American College of Obstetricians-Gynecologists; twenty-five prescribed credit hours by the American Academy of Family Physicians; and twenty-five Category I hours of credit toward the American Medical Association Physician's Recognition Award. For further information contact the Division of Continuing Education, University of Tennessee Center for the Health Sciences, 800 Madison Avenue, Memphis, Tennessee 38163. Telephone AC 901 528-5547. Dr. James R. Givens is symposium director.

FOURTH ANNUAL UROLOGIC ONCOLOGY SEMINAR

The University of Texas System Cancer Cen-

ter, M. D. Anderson Hospital and Tumor Institute will present an indepth didactic review of the various urologic malignant diseases. The seminar will be presented July 12-14, 1979, at the Shamrock Hilton Hotel, Houston, Texas. In addition to diagnosis and staging, emphasis will be placed on multimodal therapy, as practiced at M. D. Anderson Hospital and Tumor Institute, with open discussions regarding the rationale of such therapy. Course Fee \$75.00.

This medical education offering meets the criteria for eighteen hours credit in Category I of the American Medical Association Physician's Recognition Award. For additional information contact Douglas E. Johnson, M.D., Head of the Department of Urology and Professor of Urology, M. D. Anderson Hospital, 6723 Bertner, Houston, Texas 77030.



ANSWER—Electrocardiogram of the Month

DISCUSSION: The ECG shows a sinus rhythm, normal axis, and normal QRS duration. ST segment elevation is present in I, AVL, and V1-V6 with Q-waves being noted in the precordial leads. These changes are most consistent with recent anterior and lateral infarction. Generally, manifestations of poor ventricular function dominate the clinical picture in these patients. No indication for pacing is present on the ECG shown. Thus, remarks 1 and 3 are false while 2 and 4 are true.

keeping up

Category 1 Continuing Medical Education Programs Available in Arkansas

ANNUAL SURGICAL SYMPOSIUM

Dr. Gilbert Campbell program director. 9:00 A.M. until 12 noon, MARCH 2, 3, 1979. Arlington Hotel, Hot Springs. Six hours credit.

IMMUNOLOGICAL STATUS OF THE FETUS AND NEONATE

Eighth annual neonatal symposium, Dr. Alice Beard program director. 8:00 A.M. until 4:30 P.M., MARCH 9, 1979. Arkansas State Hospital Auditorium, Little Rock. Six hours credit Category I and American Academy of Family Physicians. \$35.00 course fee.

AEROBICS—THE SCIENCE OF PREVENTIVE MEDICINE

Dr. Kenneth H. Cooper, M.P.H., Dallas, Texas. 9:00 A.M. until 5:00 P.M., MARCH 10, 1979. Texarkana Community College Auditorium, Texarkana. Six hours credit. Course fee is \$10.00 for two tickets, \$4.00 adults, and \$2.00 students. Sponsored by Texarkana Area Health Education Center.

ORTHOPAEDIC SEMINAR FOR THE FAMILY PHYSICIAN

Dr. Carl Nelson program director. Friday, MARCH 16 — 8:00 A.M. until 5:00 P.M. in Education II Building, Ground Floor Room 131 A

and B; SATURDAY, MARCH 17 — 8:00 A.M. until 12 Noon in Education II Building, 8th Floor, Room 111A and B, University of Arkansas Medical Sciences Campus, Little Rock. Ten hours credit Category I and American Academy of Family Physicians. Course fee approximately \$50.00.

HYPERTENSION SEMINAR

Dr. James J. Johnson, Dr. Louis L. Sanders, and Dr. Harold W. Schnaper. 8:30 A.M. until 12:30 P.M., APRIL 7, 1979. Baptist Medical Center Auditorium, Little Rock. Four hours credit Category I and American Academy of Family Physicians.

CLEFT PALATE CONFERENCE

12:30 P.M. until 1:30 P.M., APRIL 18, 1979. Education Wing, Room E-159, St. Vincent Infirmary, Little Rock. One hour credit. No fee.

CARE OF THE SPINAL CORD INJURED PATIENT

Dr. John Bowker, program director. 8:00 A.M. until 5:00 P.M., FRIDAY, APRIL 27; 8:00 A.M. until 12 noon, SATURDAY, APRIL 28, 1979. Education II Building, Ground Floor, Room 131 A and B, University of Arkansas Medical Sciences Campus, Little Rock. Ten hours credit Category I and American Academy of Family Physicians. Course fee approximately \$50.00.

RECURRING EDUCATION PROGRAMS

Programs are for one to one and a half hours Category I credit, unless other indicated. *INTER-HOSPITAL GI PROBLEMS CONFERENCE*, First Monday of each month, 6:00 P.M. until 7:30 P.M. St. Vincent Infirmary, Little Rock.

PULMONARY CONFERENCE, Each Tuesday of the month, Noon until 1:00 P.M. Baptist Medical Center, Little Rock.

INTER-HOSPITAL UROLOGY GRAND ROUNDS, First Tuesday of each month, 5:30 P.M. St. Vincent Infirmary, Little Rock.

CENTRAL ARKANSAS PRIMARY CARE CONFERENCE, Second Tuesday of each month, 7:00 P.M. until 9:00 P.M. Baptist Medical Center, Little Rock. Two hours credit Category I and American Academy of Family Physicians.

NEUROPATHOLOGY CONFERENCE, Third Tuesday of each month, 5:00 P.M. until 6:00 P.M. St. Vincent Infirmary, Little Rock.

As organizations accredited for continuing medical education by the Liaison Committee on Continuing Medical Education, the organizations named certify that these continuing medical education activities meet the criteria for the credit hours specified in Category I of the Physician's Recognition Award of the American Medical Association.

ST. MICHAEL TUMOR CONFERENCE, First Wednesday of each month, 7:00 A.M., St. Michael Hospital, Texarkana Area Health Education Center, Texarkana.

CARDIOPULMONARY RESUSCITATION COURSE, Second Wednesday of each month, 6:30 P.M. until 10:30 P.M., Baptist Medical Center, Little Rock. Two hours credit Category I and four hours American Academy of Family Physicians.

ST. MICHAEL CHEST CONFERENCE, every Third Wednesday of the month, 12:30 P.M., St. Michael Hospital and Texarkana Area Health Education Center, Texarkana.

MORBIDITY AND MORTALITY CONFERENCE, First Thursday of the month, 8:00 A.M. until 9:00 A.M., Baptist Medical Center, Little Rock.

PULMONARY CONFERENCE, First and Third Thursday of each month, 12:00 noon until 1:00 P.M., St. Vincent Infirmary, Little Rock.

SURGERY CONFERENCE, Second, Third and Fourth Thursday of each month, 8:00 A.M. to 9:00 A.M. Baptist Medical Center, Little Rock.

MEDICINE CONFERENCE, First and Third Friday of each month, 11:30 A.M. until 12:30 P.M. Baptist Medical Center, Little Rock.



PERSONAL AND NEWS ITEMS

DR. MATTOX LOCATES

Dr. William J. Mattox, who practiced medicine in Searcy from 1962 until 1969, recently joined the staff of the Searcy Medical Center in Family Practice.

Dr. Mattox graduated from the University of Arkansas College of Medicine in 1959, and since 1969, he has practiced in Boulder, Colorado, and Wilmington, North Carolina.

DR. STERNBERG PRESENTS PROGRAM

The Choctaw Shrine Club of Clinton recently had Dr. Jack J. Sternberg of Little Rock as guest speaker. Dr. Sternberg, an Oncologist, used slides to illustrate his presentation on the team approach of cancer treatment.

DR. BALTES LOCATES

Dr. Bernard J. Baltes has joined the Gravette Medical Center. Dr. Baltes is a graduate of the Illinois School of Medicine and earned his Ph.D. in biochemistry at St. Louis University, Missouri.

DR. GARDNER HONORED

Dr. James Gardner was named the 1978 "Doctor of the Year" at the annual Garland County Medical Assistants Bosses Night Banquet. Dr. Gardner is a Family Practitioner in Hot Springs.

DR. ROY APPOINTED

Dr. F. Hampton Roy was recently elected a member of the Board of the Pulaski County Historical Society. Dr. Roy is a Little Rock Ophthalmologist.

HOUSESTAFF PRESIDENT ELECTED

Dr. Robert A. Skinner of Booneville has been elected President of the Housestaff Association at the University of Arkansas College of Medicine. Dr. Skinner will serve on the University Hospital Medical Board and is seated in the Academic Senate which establishes academic policy for the campus. Dr. Skinner is a second year resident in Internal Medicine and a 1977 graduate of the University of Arkansas College of Medicine.



OBITUARY

DR. JOHN HENRY PINSON, JR.

On November 20, 1978, Dr. John Henry Pinson, Jr., died at the age of sixty-two. Dr. Pinson had been in General Surgery practice in El Dorado for the past thirty-five years and had served as county coroner for the past twenty-two years.

Born November 15, 1916, in Union County, Dr. Pinson received his medical degree from the University of Arkansas College of Medicine in 1940. He interned at Columbus Hospital in Seattle, Washington, and received General Surgery residency training at Shreveport Charity Hospital, Louisiana.

Dr. Pinson was a veteran of World War II, serving in the United States Air Force as flight surgeon. He was a member of the First United Methodist Church in El Dorado and a former chief of staff at Warner Brown Hospital. Dr. Pinson had served as past president of the Union County Medical Society. He was a member of the American College of Surgeons.

Dr. Pinson is survived by his wife, Mrs. Hazel Bacle Pinson of El Dorado; a son, John Henry Pinson, III, of El Dorado; and four daughters, Mrs. Julia Waldron, St. Louis, Missouri, Mrs. Robin Smith, Lonoke, Mrs. Johanna Swartley, Westport, Connecticut, and Mrs. Sue Mae Rob-

erts, Springfield, Illinois; and his mother, Mrs. Gladys Betts Pinson of El Dorado.

Memorials may be made to the American Cancer Society.



PROCEEDINGS OF SOCIETIES

At its membership meeting held December 7, 1978, the Pulaski County Medical Society paid recognition to two of its members for their long years of service to the organization.

Dr. Edgar J. Easley was recognized for serving as one of the Society's delegates to the Arkansas Medical Society for the past seventeen years. Dr. Easley has had a perfect record of attendance in the House of Delegates during those seventeen years.

Dr. T. Duel Brown was honored for serving continuously as a member of the Society's Executive Committee since 1961.

Both Dr. Brown and Dr. Easley are past presidents of the Pulaski County Medical Society and were presented plaques in recognition of their service.



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If your practice is incorporated, Ark-Pac and Am-Pac voluntary political contributions should be written on a PERSONAL CHECK. Contributions are not limited to the suggested amount. Neither the AMA nor the Arkansas Medical Society will favor or disadvantage anyone based upon the amounts of or failure to make PAC contributions. Copies of Ark-Pac and Am-Pac reports are filed with the Federal Election Commission and are available for purchase from the Federal Election Commission, Washington, D.C. Contributions are subject to the limitations of FEC Regulations, Sections 110.1, 110.2 and 110.5. (Federal regulations require this notice.)

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March, 1979

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Usage in Pregnancy: Use of minor tranquilizers during first trimester should be avoided because of increased risk of congenital malformations as suggested in several studies. Consider possibility of pregnancy when instituting therapy; advise patients to discuss therapy if they intend to or do become pregnant.

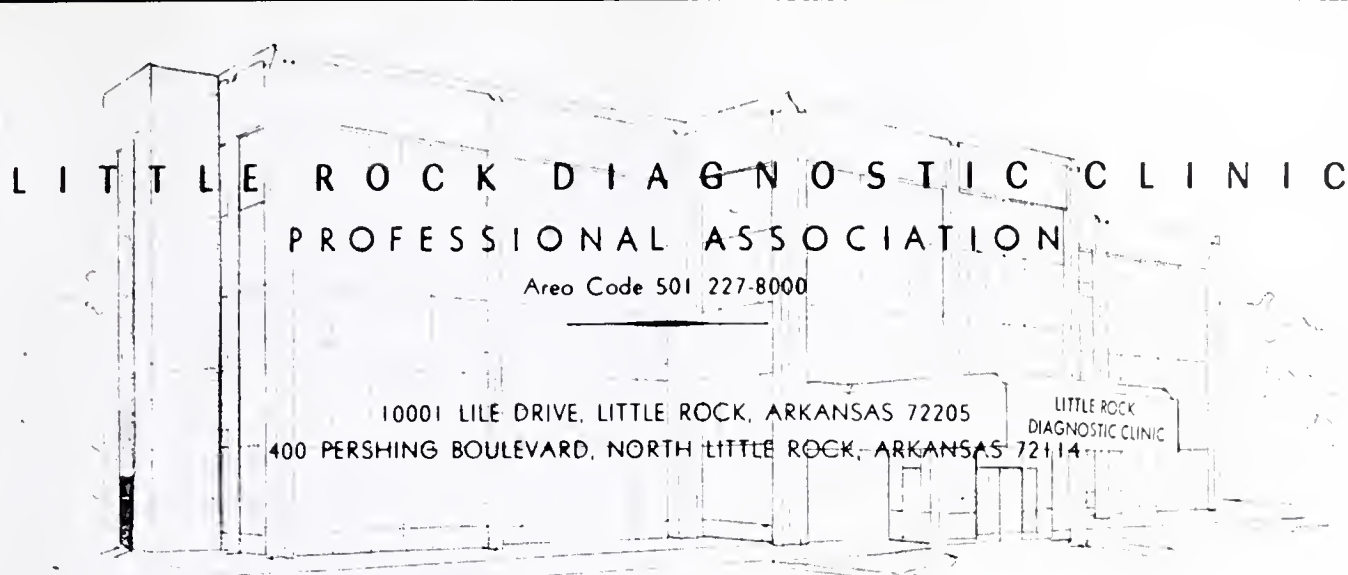
Precautions: If combined with other psychotropics or anticonvulsants, consider carefully pharmacology of agents employed, drugs such as phenothiazines, narcotics, barbiturates, MAO inhibitors and other an-tidepressants may potentiate its action. Usual precautions indicated in patients severely depressed, or with latent depression, or with suicidal tendencies. Observe usual precautions in impaired renal or hepatic function. Limit dosage to smallest effective amount in elderly and debilitated to preclude ataxia or over-sedation.

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hypotension, changes in libido, nausea, fatigue, depression, dysarthria, jaundice, skin rash, ataxia, constipation, headache, incontinence, changes in salivation, slurred speech, tremor, vertigo, urinary retention, blurred vision. Paradoxical reactions such as acute hyperexcited states, anxiety, hallucinations, increased muscle spasticity, insomnia, rage, sleep disturbances, stimulation have been reported; should these occur, discontinue drug. Isolated reports of neutropenia, jaundice; periodic blood counts and liver function tests advisable during long-term therapy.



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NEWS—Our readers are requested to send in items of news, also marked copies of newspapers containing matter of interest to the membership.

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Update on Ampicillin Resistant *Hemophilus* Influenzae in Arkansas

R. F. Jacobs, M.D., Terry Yamauchi, M.D., and Kathy Eisenach, B.S., M.S.*

Hemophilus influenzae continues to be a bacteria of major importance to the pediatrician. Of recent interest has been the emergence of ampicillin resistant *Hemophilus influenzae*.¹ In the past, ampicillin resistant strains of *Hemophilus influenzae* were reported primarily from children with serious infections, such as meningitis and sepsis. More recently, reports have appeared demonstrating ampicillin resistant strains in less serious infections, such as otitis media.² The interesting reports of ampicillin resistant strains has prompted us to look at the incidence of ampicillin resistant *Hemophilus influenzae* in the State of Arkansas.

During the period from January, 1977, through April, 1978, a total of 23 *Hemophilus influenzae* strains were isolated from the cerebrospinal fluid (CSF) or blood of 26 children. There were 23 *Hemophilus* isolates from the cerebrospinal fluid of which 18 were sensitive to ampicillin and 5 were resistant (21%). Twenty-eight positive blood cultures revealed 24 sensitive isolates and 4 resistant (14%). (Figure 1)

More recently, we have begun testing for ampicillin resistant strains of *Hemophilus influenzae* in respiratory cultures from patients with pneumonia. In our brief experience culturing aerosol induced sputum or endotracheal tubes, we have detected two additional cases of ampicillin resistant *Hemophilus influenzae*.

Although the significance of aerosol induced sputum cultures is questionable, the recovery of ampicillin resistant strains from the respiratory system suggest the variety of origin of the organism.

In testing for ampicillin resistance in *Hemophi-*

		Cerebrospinal Fluid		Blood	
		Sensitive	Resistant	Sensitive	Resistant
1977	January	2			
	February				
	March		1		1
	April		1		1
	May			2	
	June				
	July	3	1	4	
	August	1		1	
	September	2		2	
	October	3		3	
	November	1		3	1
	December				
1978	January	3	1	4	
	February	3	1	3	1
	March			2	
	April				
		18	5	24	4

Figure 1. Monthly breakdown of *Hemophilus influenzae* in cerebrospinal fluid and blood cultures with resistance rates from January, 1977-April, 1978.

lus influenzae, it is now possible to easily test for Beta lactamase production in resistant strains. Thus, acidometric enzyme assay results are readily available within an hour on the same day a pure culture is obtained.² This assay is highly reliable in detecting ampicillin resistance; no other high-level resistance testing in *Hemophilus influenzae* has been described.⁶

At the present time, we continue to follow the recommendations for the treatment of suspected serious *Hemophilus influenzae* infection as stated by the Redbook of the American Academy of Pediatrics. This is, children should initially be started on a combined therapeutic program consisting of ampicillin 200 mg/kg/day in 4-6 divided doses intravenously and chloramphenicol 100 mg/kg/day in 4 doses intravenously. These antibiotics should be continued until sensitivity tests

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are available; thereafter, the appropriate antibiotic should be continued. We are treating children with meningitis for 10-14 days with intravenous therapy. Although there have been scattered reports of ampicillin-resistant strains of *Hemophilus influenzae* recovered from middle ear fluid of children with otitis media³⁻⁵ we have not been able to document that finding in this immediate vicinity. Therefore, we continue to recommend the use of ampicillin or amoxicillin for the treatment of otitis media in the age susceptible child.

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Venous Thrombosis and Pulmonary Thromboembolism

Comments on Diagnosis and Therapy

Ernest J. Ferris, M.D., F.A.C.R.*

About 650,000 thousand people per year suffer from pulmonary thromboembolic disease. Approximately 140,000 of these patients die from the disorder each year in the United States.¹ Pulmonary embolism is thought to cause 50% of sudden deaths and this form of pulmonary vascular obstruction is present in 24% of general autopsy series.¹ It is also found in 60% of autopsies of patients who die from congestive heart failure. The distribution of the sites of origin of pulmonary thromboembolism and predisposing factors are important. Approximately 95% originate from thrombi below the level of the renal veins. Predisposing factors are thrombophlebitis, varicose veins, abdominal surgery, particularly pelvic surgery, malignancy, pregnancy, and stasis secondary to inactivity from a chronic illness, hypercoagulable states such as polycythemia, dysproteinemias, and accelerated clotting factors (familial or associated with malignancy). Only about 5% originate from abnormalities above the level of the renal veins and include such pathological states as tumors of the liver, idiopathic thrombi in the right atrial appendage or right ventricle associated with cardiomyopathy, mitral stenosis, and others.¹

Since it is obvious that all patients with thrombosis of the lower extremity do not necessarily suffer symptomatic pulmonary thromboembolic disease, the incidence of venous thrombosis is many times greater than pulmonary thromboembolic disease.

In countless lectures and papers, both of these entities have been discussed in great detail but usually in separate treatises. It is, in my opinion, virtually impossible to discuss one without correlating the other. Let us try, therefore, to evaluate, from a diagnostic point of view, venous thrombosis and pulmonary thromboembolic disease in an attempt to determine, indeed, whether therapeutic choices vary when all information is available.

VENOUS THROMBOSIS

The question that arises with respect to venous thrombosis is who should be tested. Certainly,

anyone with sudden swelling of the foot, ankle pain and tenderness is a likely candidate for harboring venous thrombi in the deep vessels of the lower extremity. Predisposing factors, as indicated above, make it worthwhile to consider testing patients even though they do not have obvious symptoms of venous thrombosis. It has been estimated that approximately 50% of the clinical diagnosis of venous thrombi turn out to be in error. This cogent and important point has been verified by many investigators and in my own personal experience. In over 120 patients with typical symptoms of venous thrombosis, immediate positive contrast leg venography with fluoroscopic spots and careful evaluation of all the deep veins of the extremity including the soleal arcade, high gastrocnemius veins, the paired calf veins, the popliteal and superficial femoral vein all the way up to the inguinal ligament, I found only 60 patients who had confirmatory evidence of recent or old venous thrombosis. Many such patients turn out to have other confusing disease entities such as myositis, dissecting synovial cysts,² arterial insufficiency, cellulitis, etc. It behooves the physician therefore, to verify the diagnosis of venous thrombosis. Certainly, ultrasound (doppler) has become a reasonably adequate screening procedure and in most individual's hands is about 75% accurate for deep venous thrombosis.³ Electrical impedance studies have also proven to be a screening test with about 75% accuracy when correlated with positive contract venography.³ The radionuclide venography (RNV) has more recently been shown to have some distinct advantages. These will be discussed below. The RNV accuracy rate is fairly high for large veins in the thigh and the popliteal fossa but not as accurate for deep venous thrombi involving the calf veins. The positive contrast venogram is the standard examination against which all others are measured and approaches 100% accuracy when properly performed. Another examination which has a very high sensitivity rate is the fibrinogen uptake test utilizing radioactive ¹²⁵I- fibrinogen. Intravenous injection of radiolabeled fibrinogen is performed and contrasting counts are made at different

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points in the same and opposite extremities. A 20% difference in counts is diagnostic. The time element here is two or three days to establish whether there is a thrombosis present. This late result can be catastrophic and in this modern day and age most physicians would request an earlier response to a perplexing problem such as venous thrombosis. There are also some false positives such as cellulitis, arthritis and other low grade inflammatory diseases.

The radionuclide venogram (RNV) has become very promising in the last several years. This examination can be utilized not only to assess the deep venous structures of the lower extremity, but one can also perform a perfusion lung scan at the same time. By injecting tagged macro aggregates of human serum albumin into the dorsal vein of each foot, one can scan the thighs and calf with serial rapid camera reproductions. The radio-labeled material then is followed up into the lung where a perfusion lung scan is performed. The radionuclide study will show either a failure to fill major vessels, obstruction with collateral flow or a "hot spot." With adequate injection and with a tourniquet properly applied to close off the superficial venous system, a failure to identify the popliteal or femoral veins on the radionuclide study is excellent evidence of extensive thrombosis. One of the most reliable signs of deep venous thrombosis on RNV is obstruction to the flow of radionuclide with filling of collaterals. A "hotspot" is accepted as a well defined localized area of increased activity persisting for longer than five minutes after the injection of the radionuclide and is a feature of deep venous thrombosis. It should be pointed out that the RNV does not determine the relative age of venous thrombosis with the exception of the "hot spot", usually seen in fairly recent thrombi.

One of the problems with the RNV examination is its lack of accuracy in the veins of the lower leg within the gastrocnemius muscles. It is also less reliable for delineating the three paired deep veins in the lower extremity below the level of the knee. The study is, however, quite reliable and accurate in delineating obstructive disease involving the superficial femoral vein and popliteal vein. The value above the inguinal ligament is debatable and in my experience has been poor.

Despite the proliferation of new techniques, positive contrast venography is still considered to

be the most accurate method of detecting deep venous thrombi in the lower extremity. The examination is relative simple and actually can be performed at the bedside. Ideally, I prefer to inject contrast material into the dorsal vein of the foot without a tourniquet so that there is no hemo-dynamic washout of the deep venous system due to flow from the unopacified superficial veins into the contrast filled deep venous structures. By eliminating the tourniquet, of course, all the venous structures are filled and hence no hemo-dilution artifacts will be seen. One can follow this contrast material fluoroscopically to the inguinal area and even beyond to visualize the iliac vessels at times, as well as the lower inferior vena cava. Spot films are followed by 14 x 17 films. When one has to compromise the examination to some degree because of the location, that is, the intensive care ward of the surgical ICU, large films with proper technique can still give a remarkably informative leg venogram. The criteria for the diagnosis of a recent thrombosis is a filling defect or cutoff. Certainly, non-filling of a deep venous system with adequate technique almost always indicates a venous thrombus, but of undetermined age.

Some physicians have raised a question which should be answered in a discussion of this kind. Does indeed the injection of meglumine or sodium salts of diatrizoate or ithalomate cause in/and of themselves venous thrombosis? In an interesting study, Richey⁴ examined 104 patients after hip surgery with fibrinogen uptake tests to determine the incidence of venous thrombosis. In his examinations, 55 of these patients that were examined with fibrinogen had no abnormality. These patients were then subjected to positive contrast venograms. Within 96 hours all of these 55 patients were examined again with a fibrinogen uptake test. Twenty-nine of the 55 patients surprisingly illustrated multiple scattered areas of positive fibrinogen uptake along the course of many of the deep veins. This suggested that there was probably a transient deposition of fibrinogen occurring on the venous surface. Nevertheless, the patients did not become overtly symptomatic, nor were there physical signs of venous thrombosis present in these patients. It should be pointed out that the potential, therefore, of stimulating venous thrombosis with positive contrast agents is a real one. One particular aspect of the technique that I feel will probably diminish this possibility

is a washout of the contrast material with infusion of saline after the examination is complete. By infusing 150 ccs of normal saline the contrast material is hemodiluted and one would expect, therefore, the propensity to have fibrin deposition from long standing contrast accumulation near the valves and on the surface of the deep veins to be diminished.

Pulmonary Thromboembolism

The clinical impression of pulmonary thromboembolic disease is wrong 50% of the time.^{5,6,7,8} The perfusion lung scan is not diagnostic in approximately 40% of patients. The reasons for this are multiple. Often the patient has infiltrative disease, effusion, or congestive heart failure with diminution in flow to the lower lobes making the interpretation of a perfusion scan extremely difficult. Patients in the older age group with obstructive and/or restrictive lung disease also have abnormal lung perfusion scans without the presence of pulmonary thromboembolic disease. Classically, with a lobar, or less diagnostically a segmental, defect, along with appropriate symptomatology and other laboratory parameters, one can make the tentative diagnosis of pulmonary thromboembolic disease with a high degree of accuracy. This assumes, of course, that the chest roentgenogram shows no infiltrative or plural disease. With the addition of the xenon inhalation scan, there is no question that nuclear imaging has become more accurate in assessing perfusion abnormalities of the lung. The accuracy rate is presumably above 60% and varies depending upon authors to levels approaching 90%. Nevertheless, in a physician's clinical practice it become obvious that many patients have debatable findings even with all these laboratory parameters and nuclear imaging studies so that the diagnosis of pulmonary thromboembolic disease is not ascertained with a high degree of assurance. This presents a problem because of the seriousness of pulmonary thromboembolic disease. It is certainly unsafe to withhold anticoagulation in the face of a critical diagnosis because the mortality from untreated pulmonary thromboembolic disease approaches 30%.⁹ On the other hand the mortality drops to 8 or 9% in patients treated with standard heparin therapy.⁹ Now the question arises, is it safer to use heparin therapy than to proceed in equivocal cases with pulmonary angiography? If one recalls the urokinase study for pulmonary embolism, the incidence of bleed-

ing with heparin therapy approached 27%.¹⁰ One has to weigh, therefore, this high incidence of bleeding against the risk of the most definitive study available for the diagnosis of pulmonary thromboembolic disease, namely pulmonary angiography. In multiple series of pulmonary angiography for thromboembolic disease, the mortality figure has always been extremely low. Dalen's mortality was only 0.3%.¹¹ In my own personal experience with over 800 pulmonary angiograms, I have had one death in a patient with associated pulmonary hypertension. So one can see that, in spite of the invasive nature of this technique, the mortality is still extremely low.

Pulmonary angiography should be an integral part of the diagnostic capabilities of any medical facility. To settle for less is to do a great disservice to a large number of patients with a common and serious disorder. Pulmonary angiography is the most specific test for the detection of pulmonary thromboembolic disease.

Angiography is indicated in the evaluation of patients suspected of having pulmonary thromboembolism when the perfusion ventilatory lung scans are not classical for pulmonary thromboembolic disease. Angiography is also indicated in the presence of parenchymal or plural disease where nuclear scans may be rendered inconclusive.

Concomitant Correlative Diagnostic Evaluation of Venous Thrombosis and Pulmonary Thromboembolic Disease

When the clinician is confronted with a patient who has venous thrombosis as manifested by leg swelling, tenderness, or pain without symptomatology relative to pulmonary thromboembolic disease, there is a propensity to evaluate the legs exclusively. One may proceed to the most informative test, namely the positive contrast leg venogram to confirm the diagnosis. In these situations it would seem more reasonable to approach the problem from the point of view of statistical analysis, that is, the probable incidence of pulmonary thromboembolism relative to the site of venous thrombosis in the lower extremity.^{12,13} Many studies are available that show beyond question that patients with overt or even occult venous thrombosis of the lower extremities do indeed have pulmonary thromboembolic disease. This may not be of any symptomatic significance, or may be covered up by the patient's primary medical problem. In other cases, it may simply be overlooked. If one accepts the normal

statistics for post operative or bedridden patients with respect to venous thrombosis, then approximately 30 to 35% of these patients will develop deep venous thrombi.¹⁴ Even with the low dose heparin regime, one cannot predict the long term decrease in incidence of venous thrombosis in these patients. Preliminary studies by Kakhar and others have suggested that post operative venous thrombosis drops to about 15%.¹⁴ Nevertheless, when the venous thrombi are located in the calf, that is, soleal arcade, the gastrocnemius veins, the peroneals, the anterior tibial veins, or the posterior tibial veins, there is not a significant statistical incidence of thromboembolization from venous occlusions located in these areas. The incidence has been estimated to be less than 10%.¹⁴ However, when the popliteal vein or the superficial femoral veins are involved, the incidence of thromboembolic disease goes up dramatically and approaches 40 to 50%.¹ One can appreciate that embolization of venous thrombi from larger veins would be anticipated to provoke a greater hemodynamic insult to the pulmonary circulation. Hence, it is important not only to make the diagnosis of venous thrombosis by some imaging technique, but also to determine the extent and location of the disease process. As discussed above, the radionuclide venogram can be utilized as a screening procedure for venous thrombosis at the same time that a perfusion lung scan is requested. If one injects the agent utilized for lung scanning into the dorsal veins of both feet and scanning procedures are performed over the extremities, one can delineate with a reasonably high degree of accuracy deep venous thrombosis in the popliteal and superficial femoral veins. Recall that the incidence of pulmonary thromboembolic disease is high from these sites and the information gained may therefore be considerable with respect to proposed therapy. Assume that one has a large thrombus in the superficial femoral vein and the patient, indeed, does have obliterative disease of the pulmonary circulation with severe alteration in blood gases as well as antecedent cardiopulmonary disease. In this kind of patient, because of the information gained from the methodology of studying the patient from below for the lung scan, it may be more reasonable to utilize a lytic agent such as streptase, abbokinase or perhaps to insert a Mobin-Uddin filter.

In contrast let us look at the other aspect of

venous thrombosis and pulmonary thromboembolism, namely the thrombus lodged in the pulmonary circulation. In that situation this other aspect may be the most critical in the way of symptomatology and the clinical approach is geared primarily to that area. One should recall that emboli usually consist of thrombi but rarely may be composed of non-blood constituents such as fat, air, bone marrow, liver, fatty tissue, amniotic fluid, or trophoblastic tissue. In this discussion let us adhere to the expression of pulmonary thromboembolism rather than any other embolic material. If one attacks the disease entity described immediately above with pulmonary angiography after the lung scan is performed by way of the feet, an added procedure should be performed. We know that we can detect those venous thrombi in the lower extremity with an RNV that are in large veins and hence have a propensity to embolize. On the other hand, venous thrombi in the ilio caval system are not detected very well by radionuclide venograms. It is important, therefore, that the right iliac, the left iliac, and the inferior vena cava be evaluated as well as the pulmonary circulation. In a series of 137 patients with pulmonary thromboembolism previously reported, I found that 15 patients had occlusions in the ilio caval system for a frequency of 11%.¹⁵ This figure is not unlike those reported in several post mortem examinations. It is also critical to understand that patients may have deep venous thrombi in the ilio caval system without symptoms of edema or pain. In other words, when the clinician is confronted with a patient with either venous thrombosis as presenting symptomatology, or pulmonary thromboembolism, the evaluation really should be total. One can evaluate from the toe up to the very periphery of the pulmonary circulation by multiple modalities. The most efficient and probably most informative study is a radionuclide venogram as an accessory study with the perfusion lung scan. This is followed, if necessary, by a xenon ventilatory scan. If indeed, the pulmonary circulation is to be further studied, an ilio caval examination as well as pulmonary arteriographic examination is justifiable. Let us look at several examples that will make these points perhaps more obvious.

ILLUSTRATIVE CASES

Case #1 D.L.

An 80-year-old white female entered the hospital with pneumonitis. She had sudden gross

hemotysis and dyspnea. She was in severe congestive heart failure and had a history of chronic obstructive lung disease.

Perfusion scans were performed via the dorsal vein of both feet. No abnormalities were seen in the lower extremities, but multiple peripheral defects were seen in the lung. Xenon ventilation scans were not conclusive.

Pulmonary angiography was, therefore, performed and one can appreciate occlusive disease involving the right main pulmonary artery (Fig. 1). There was also similar occlusive disease on a selective left pulmonary angiogram not illustrated. Because of the routine evaluation of the left iliac vein as illustrated in Figure 2, we found a large iliac vein thrombus.



Figure 1.

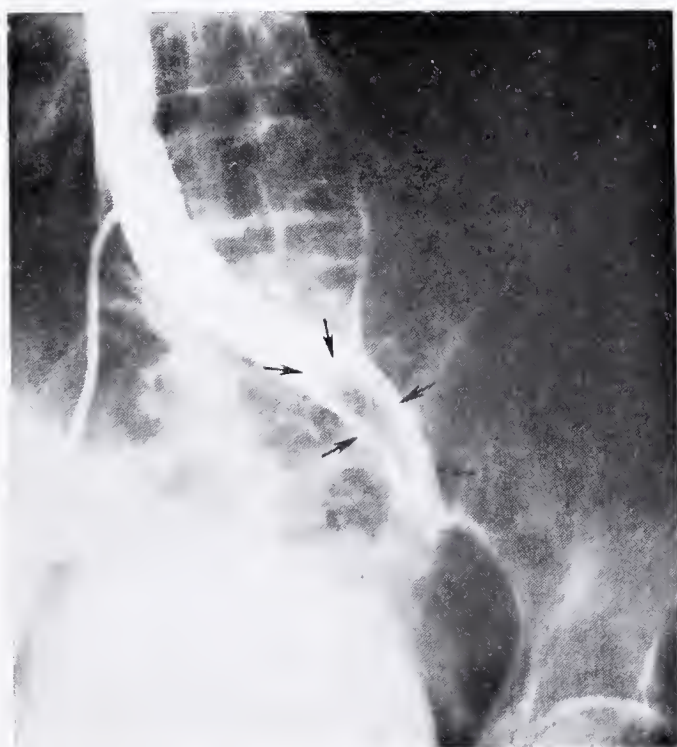


Figure 2.

Comment: Here is an elderly patient with congestive failure, obstructive lung disease, and active pulmonary disease with significant occlusive pulmonary vascular disease superimposed. The iliac vein thrombus, a coincidental finding picked up by routine screening of the iliac veins posed a threat. The incidence of embolization from iliofemoral venous thrombosis is considerably higher than thrombi deep in the calf of the extremity.

Because of this, it was elected to insert a Mobin-Uddin filter illustrated in Figure 3. The patient was also put on heparin therapy for three months. In follow-up, no overt recurrence of pulmonary thromboembolic disease was apparent.

One can argue that streptase or some other lytic agent might have been utilized rather than a filter. Certainly if streptase were available at the time of this examination, that would have been a consideration. Nevertheless, one probably would be reluctant to utilize heparin therapy alone in the condition described, that is, severe obliterative disease involving the pulmonary circulation in a chronically ill patient with congestive failure along with a potential huge embolus from the left iliac vein which harbored a large iliac vein thrombus.

Case #2 A.L.

This is a 68-year-old female who entered the hospital with leg swelling on the right. A leg venogram was performed and is illustrated in Figure 4. One can appreciate the large thrombus present in the iliofemoral system. A lung scan was performed by way of the dorsal veins of both feet and illustrated significant perfusion abnormalities in both lungs along with a suggestion of a defect in the right superficial femoral vein



Figure 3.

which was verified by the study illustrated in Figure 4. The patient had considerable pulmonary dysfunction and it was felt that the potential release of the huge thrombus in the right iliac vein could result in the demise of the patient. Rather than routine heparin therapy, a Mobin-Uddin filter was inserted. Again, as the case above, perhaps aggressive therapy with streptase would be of considerable value in this case.

Case #3 A.Y.

This 74-year-old male entered the hospital with acute left chest pain. A perfusion lung scan was performed by way of the feet. The legs were normal but there were considerable perfusion defects in both lungs. The patient was anti-coagulated with heparin but did not do well. His pO_2 remained low and his pulmonary functions deteriorated.

Because of this, it was felt that the patient was suffering from recurrent pulmonary thromboembolic disease and I was requested to put in a Mobin-Uddin filter. With a standard examination of the pulmonary circulation one could certainly appreciate multiple occlusions involving the mid and peripheral pulmonary arteries. The iliofemoral system appeared to be normal on venography but on contrast cavography there was noted to be a large thrombus in the left renal vein. (Fig. 5) Non-function of the left kidney was coincidentally noted. Because of this, a filter was not inserted and the patient was put on aggressive

heparin therapy. Within three months renal function returned to normal and the patient suffered no sequela from the pulmonary thromboembolic disease.

Comment: In this particular patient a lytic agent such as those described might have been of value. Nevertheless, the important point to remember is that the filter which is inserted below the level of the renal veins would have been of no avail in this particular patient. Again, this abnormality was picked up coincidentally because of the routine of ilio-cavography during the pulmonary angiographic procedure.

SUMMARY

The problem of pulmonary thromboembolic disease and venous thrombosis is a perplexing and difficult one. Often we feel that we do too little to make the diagnosis and contrastingly some feel that we pursue the diagnosis too aggressively. It should be stressed that venous thrombosis and pulmonary thromboembolism are the same disease process with different clinical symptoms, and should be studied conjointly rather than as individual entities. An approach with radionuclide venographic screening of the lower extremities during lung perfusion scanning for pulmonary



Figure 4.

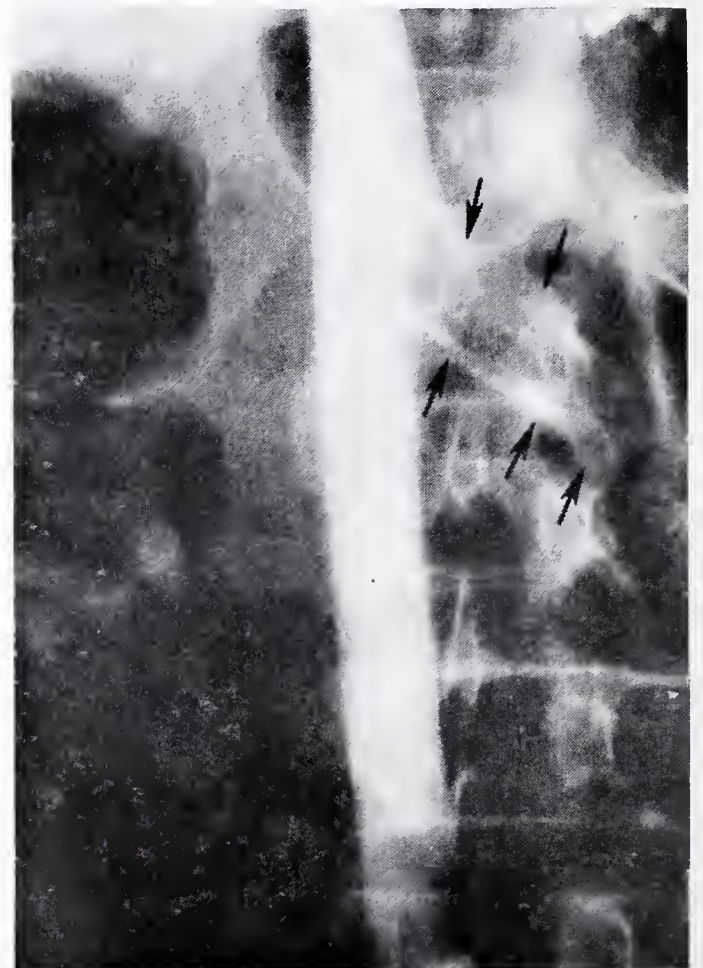


Figure 5.

thromboembolic disease is advised. Lung scanning when a venous thrombus is picked up in the lower extremity either by RNV or by positive contrast venography is also advisable to diagnose occult pulmonary thromboembolic disease. Iliofemoral cavography as a component of the routine pulmonary angiogram is also an approach which yields considerable information. All of these combined examinations do have an effect on therapy.

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Medical Grand Rounds*

E. A. Lipsmeyer, M.D.,** and R. B. Lewis, M.D.***

Case Presentation

This 54-year-old white male was well until November 1977, when he developed fever, myalgias, and headaches. He was seen by his local physician who gave him an unknown amount of penicillin parenterally and initiated oral therapy. Three days later his temperature was normal but he had developed pain in the shoulders, arms, and thighs. He also noted muscular weakness in these areas. This slowly became worse until he presented to the Veterans Hospital, Little Rock, and was admitted for evaluation and therapy.

Past history and review of systems was non-contributory. Physical examination revealed proximal muscle weakness of the arms and legs. It was otherwise benign.

Laboratory Evaluation

The hematocrit was normal and the white cell count was 14,780 with 80% neutrophils. Erythrocyte sedimentation rate was 19 mm/hr. The SGOT was 925 U, the lactic dehydrogenase (LDH) was 970 U, and the creatinine phosphokinase (CPK) was 12,000 U. X-ray film of the chest showed a suspicious right hilar lesion. Electromyogram (EMG) was compatible with inflammatory and/or denervation myositis. Biopsy of the deltoid muscle revealed severe myositis.

He was treated with prednisone, 60 mg PO daily, with return of serum enzymes to normal over the next three weeks. However, he developed a pneumonia which was treated and cleared. Further evaluation of the right hilar lesion revealed a squamous cell carcinoma. Bronchoscopy also revealed another lesion in the left lower lobe bronchus. He reached a plateau in improvement after four weeks, was discharged to be followed by Oncology, but again developed pneumonia and was readmitted for therapy. Presently he is being followed in Oncology Clinic on BCNU, Cytosan, and Levamisole for his tumor. His enzymes remain normal.

Discussion

The diagnosis of poly- or dermatomyositis requires several criteria. The most useful of these

appear to be proximal muscle weakness, elevation of serum enzymes, characteristic EMG findings, typical muscle biopsy histopathology, and the classical skin rash of dermatomyositis. The incidence of polymyositis is thought to be 10/1,000,000 new cases per year. About 34% of these are polymyositis, 29% are dermatomyositis, and the remainder represent overlap syndrome. The current classification¹ of polymyositis-dermatomyositis is shown in Table I. Myositis associated with overlap (Group V) had previously been thought to be associated with systemic lupus erythematosus, progressive systemic sclerosis, rheumatoid arthritis, and periarteritis nodosa. However, many of these overlap syndromes actually represent mixed connective tissue disease, a newly-described syndrome presenting clinically with swollen hands, Raynaud's phenomenon, and polymyositis.

Pathogenesis

Polymyositis is currently thought to be a manifestation of cell-mediated immunity.²⁻⁴ T cells are thought to become sensitized to muscle tissue, perhaps by viral invasion, and then to release a lymphokine, lymphotoxin which destroys muscle. The evidence for this hypothesis is the following: 1) Experimental models of myositis in rats and guinea pigs immunized with allogeneic muscle have been produced. The immunized animals developed proximal muscle weakness and histologic lesions resembling human polymyositis. 2) Lymph node lymphocytes from rats immunized with muscle cause cellular damage when applied to fetal rat muscle explants in vitro, and also passively transfer myositis to normal rats. Lymphocytes from polymyositis patients also induce cytotoxicity in fetal muscle explants in vitro. 3) The muscle infiltrate seen in patients with polymyositis is composed mainly of lymphocytes and monocytes resembling the classic lesion of delayed hypersensitivity. 4) Lymphocytes and

TABLE I

- | | |
|-----------|---|
| Group I | — Polymyositis in adults. |
| Group II | — Typical dermatomyositis with skin rash. |
| Group III | — Inflammatory myositis associated with malignancy. |
| Group IV | — Childhood myositis. |
| Group V | — Myositis associated with overlap. |

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heavily infiltrated muscle from patients with polymyositis release lymphokine in culture. This lymphokine then induces cytotoxicity in vitro. The lymphokine has been characterized as lymphotoxin, one of the lymphokines known to mediate cell-mediated immunity. 5) Methylprednisolone inhibits the action of lymphotoxin on muscle cells.

Histopathology

The microscopic lesions found in muscle in polymyositis in order of frequency of changes include: 1) Primary focal or extensive degeneration of muscle fibers with occasional vacuolization. 2) Evidence of regeneration. 3) Necrosis of a part of one or more fibers with phagocytosis of the substance. 4) Interstitial infiltration of chronic inflammatory cells, especially lymphocytes and monocytes. 5) Significant variation in individual fiber size when viewed in cross-section, especially in cases over several months duration. 6) Interstitial fibrosis which occurs upon healing of the myositis. Peripheral fibers and fascicles predominately are affected early whereas central fibers may be spared.

Skin biopsy of patients with dermatomyositis revealed dermal edema which mimics mucinosis. A dermal cellular infiltrate composed of lymphocytes is sometimes present in the perivascular area and occasionally extends through the dermis. Paramyxovirus-like inclusions have been seen in skin and muscle of patients with active dermatomyositis. However, tissue culture studies and serologic tests for several paramyxoviruses have been negative.

Clinical Manifestations

Myositis may be described as a bilaterally symmetrical, proximal muscle weakness. Elevation of serum enzymes, typical pathologic picture on biopsy, and typical electromyographic change usually occur. In approximately 95% of the patients there is weakness of the proximal muscle of the lower extremities, and weakness in the proximal muscles of the upper extremities occurring about 75% of patients. Neck flexor weakness is present in 62%; dysphagia in 47%. Muscle tenderness is seen in 50% of patients; muscle atrophy in 50%, and contractures in 27%.

It is difficult to make a diagnosis of polymyositis in the absence of proximal muscle weakness although occasionally one will see a patient with typical laboratory findings and skin rash without muscle weakness. Pearson et al have followed

several patients with these symptoms for up to eight years without treatment because no muscle weakness has developed. This is unusual, however, since muscle weakness is a prominent symptom. Raynaud's phenomenon and other rheumatic complaints are present in 24%.

Dermatomyositis may occur at any age and two-thirds of the patients are women. The usual rash of dermatomyositis occurs in approximately 40% of patients with inflammatory myopathy. It is a dusky red, slightly raised, scaly rash found on the elbows, and over the dorsum of the proximal interphalangeal joints and metacarpal phalangeal joints. It may also be seen over the knees and medial malleoli of the ankles. There may be a dusky lilac suffusion over the upper eyelids, the heliotrope rash, which is pathognomonic for dermatomyositis. Periorbital edema may also occur. At times patients with dermatomyositis have dilatation of the capillaries in the periungual area. These dilated capillaries may occur in dermatomyositis, scleroderma, or Raynaud's phenomenon. Other clinical findings should differentiate these diseases. Childhood polymyositis is marked by vasculitis and has a better prognosis than adult polymyositis. Children may develop widespread calcification of the skin, muscles, subcutaneous and periarticular tissues, referred to as calcinosis universalis.

Laboratory Findings

Most routine laboratory tests are normal with the exception of the erythrocyte sedimentation rate. Serum enzymes, especially the transaminases, creatine phosphokinase (CPK), and aldolase are sensitive indicators of muscle injury. Serial fractionated CPK and aldolase may be used to determine the response of the patient to therapy. Electromyographic changes are usually seen. These include: 1) spontaneous fibrillation and positive "saw-toothed" potentials, 2) complex polyphasic or short-duration potentials which appear on voluntary contraction, and 3) repetitive high-frequency action potentials.

Cardiac

A study by Sharratt et al⁵ has indicated cardiac involvement in approximately 40% of patients with polymyositis. The patients who had cardiac involvement had more severe, longstanding, active disease. The ECG revealed arrhythmias, conduction disturbances, abnormal systolic time intervals indicating left ventricular dysfunction.

Esophageal

Esophageal abnormalities may be present. There is alteration in swallowing with retention and reflux of barium during deglutition. There is weakness of the striated muscle of the posterior pharynx, upper esophageal distention, diminished peristalsis, and delayed transit time in the upper esophagus. In some cases the muscularis is replaced by fibrosis. It is of interest that distal esophageal disease has not been reported in polymyositis, although it is present in progressive systemic sclerosis. The finding of distal esophageal disease should lead one away from the diagnosis of polymyositis.

Pulmonary

Aspiration pneumonia may occur in patients with polymyositis with abnormal esophageal motility. Hypoventilation with secondary hypostatic pneumonia also occurs. Primary interstitial fibrosis has been reported in 37 cases.⁶ The histology of the lungs showed interstitial lymphocytic and plasmacytic infiltration with fibrosis without vasculitis. This is in contrast to the findings in patients with progressive systemic sclerosis.

Progressive Systemic Sclerosis

This is in contrast to the findings in patients with scleroderma which may show diffuse interstitial fibrosis associated with vasculitis. Clinically the patients with polymyositis were generally women (68%). The predominant symptom included nonproductive cough and dyspnea. The pulmonary symptoms may precede the muscle disease by three years. Pleurisy or pleural effusion has not been reported with polymyositis. Blood gases reveal hypoxemia. Pulmonary function tests show a restrictive ventilatory defect with decreased vital capacity and decreased total lung capacity. Carbon monoxide diffusion capacity is markedly decreased.

Renal

Renal disease may be manifested by myoglobinuria. Myoglobin is a single polypeptide chain heme-containing protein normally found in striated muscle cells. It is thought that it is released into the circulation in various types of muscle injury. It appears to have a very low renal threshold, less than 30 $\mu\text{g/ml}$. Below this concentration, myoglobin in the circulation is metabolized by the reticuloendothelial system. There is little if any plasma binding so that the

urine may contain larger amounts than the plasma.

In patients who have had fatal myoglobinuria, myoglobin has been detected by immunofluorescence in renal tubular cells and the lumina of the renal tubules. Twenty-three patients with polymyositis were surveyed by Kagen.⁷ Twelve of these demonstrated serum or urine concentrations of 5 to 328 $\mu\text{g/ml}$. Myoglobulin was more frequent in the serum than in the urine, but never found present in the urine without being present in the serum. Myoglobulinemia was not related to age or sex. It appeared more common with dermatomyositis (11/18) than with polymyositis (1/5). Serum enzymes were higher in a group with myoglobinemia.

Acute renal failure may occur secondary to myoglobinuria. This resembles the crush-injury type of acute renal failure and histologically the kidney demonstrates myoglobin casts. The mechanism for acute renal failure in this disease has not been well established.

Glomerulonephritis has been recently reported in five patients in association with polymyositis.⁸ They had no skin changes nor underlying neoplasms. ANAs, cryoglobulins, and LE preps were negative. One of the five patients had decreased C3. Urinary sediment was abnormal in three of five patients. Total urinary proteins ranged from 1.7 to 4.4 gm/24 hr. Renal biopsy in four patients showed mild focal segmental mesangial cell increase. Immunofluorescence in one patient showed a fine granular pattern for IgG and IgM. Patients responded to treatment with corticosteroids with clearing of their proteinuria before improvement of their polymyositis.

In a retrospective survey of the patients with polymyositis over the last 10 years, 9/70 patients had urinary proteins over 300 mg/24 hr, 4/7 had abnormal urinary sediments. The mechanism for proteinuria and abnormal urinary sediment is not known but it may be related to myoglobinuria.

Muscle Disease Associated With Neoplasm

Paraneoplastic disease may be manifest by muscle disease including myositis. Syndromes associated with neoplasms fall into one of three groups: 1) Carcinomatous myopathy, a well-defined syndrome of proximal limb weakness which occurs in patients with malignant tumors. There is very prominent muscle pain, and histopathology shows nonspecific change without interstitial inflammation. There is tendency for

the symptoms to remit without regard to the course of treatment. 2) Myasthenic syndrome, "Lambert-Eaton" syndrome, is manifest by myasthenia in patients with intrathoracic malignancy, especially bronchogenic carcinoma. These may be differentiated from the usual myasthenia gravis by these methods: (a) cranial nerves are not usually involved, (b) deep tendon reflexes are abolished or decreased, (c) there is no diagnostic response to neostigmine, and (d) the tetanic nerve stimulation increases the height of action potential rather than decreasing the amplitude. 3) Dermatomyositis and polymyositis may be related to malignancy. Erroneously quoted figures from the work of Shy⁹ have been said to show that 71% of males over 50 years of age with polymyositis have malignant tumors. He studied 131 patients with late onset myopathy, defined as muscle disease which begins in patients over the age of 30, thereby eliminating most childhood myositis and muscular dystrophy (see Table II). Under 50 years of age, the most common disorder associated with late onset myopathy, is collagen disease. Over the age of 50, myopathy is usually associated with carcinoma. However, over the age of 50 no polymyositis or dermatomyositis is noted in his study. After the age of 50, if the patients are followed for three years, all men have associated neoplasm.

Williams¹⁰ reviewed the literature collecting 590 cases of dermatomyositis. The overall tumor rate was 15%, however this was distorted by the propensity for diseases complicated by neoplasia to be reported, whereas patients who do not have neoplasia are less likely to be reported. In 1977, Pearson et al^{11,12} reviewed 153 patients seen at UCLA. Thirteen of 153 had malignancy (8.5%); the average age of patients with polymyositis and

malignancy was 62 ± 3.6 years. The ages ranged from 43 to 78. Men over the age of 50 who developed dermatomyositis or polymyositis had a 19.2% incidence of malignancy.

Treatment

The mainstay of therapy are the adrenal corticosteroids. Usually prednisone is used in divided doses of 60 mg per day. The patient should be at bedrest as long as inflammatory myositis is present although passive range of motion is carried out to prevent contractures. Once the enzymes have fallen to normal, more active exercise is begun and the patient is slowly ambulated. The enzymes are followed carefully, and if there is an increase in serum enzymes, bedrest is again reinstituted. Enzymes in most patients will return to normal, and muscle tenderness will subside in four to six weeks. Corticosteroids are then slowly tapered, and enzymes are monitored. For those who are resistant to prednisone, immunosuppressive therapy may be added. Methotrexate has seemed to be the most effective. Approximately 0.4 to 0.8 mg/kg or 25 to 50 mg of methotrexate weekly is given. Pearson et al report good results with this regimen.

The prognosis of polymyositis is better in children than in adults. Younger patients tend to survive longer. Medsger et al¹³ reported that survival depends on the number of complications present early in the disease, with pneumonitis being an especially bad prognostic sign. The prognosis for the black patient in the first two years of the disease was much worse than for the white patient. However, Pearson et al did not find the same death rate or complications, but it is not known the number of black patients in the latter group.

Conclusions

Of the groups outlined in Table I, Group I represents typical polymyositis and appears to have a higher frequency of cardiopulmonary involvement. Group II is typical dermatomyositis and it involves more nearly equal male:female distribution. It usually presents with skin involvement rather than with muscle weakness, and usually has milder histopathology on muscle biopsy. Group III myositis with malignancy appears to occur in older patients with a poor response to treatment and prognosis. The muscle biopsy abnormalities tend to be florid. Group II childhood myositis has a high frequency of diffuse muscle biopsy abnormalities. There is frequent

TABLE II
LATE ONSET SYMMETRICAL PROGRESSIVE
POLYMYOPATHY

	30-50		Over 50	
	M	F	M	F
Dermato-polymyositis	13	15	0	0
Progressive systemic sclerosis	4	2	0	0
Polyarteritis nodosa	5	3	0	0
Rheumatoid arthritis	1	6	0	0
Systemic lupus erythematosus	5	7	0	0
Sjogren's syndrome	1	1	0	2
Sarcoidosis	0	5	0	1
Carcinoma	2	2	12	8
Unknown	3	5	5	23
	34	46	17	34

muscle fiber degeneration and vasculitis, and this myositis may heal with muscle calcification, calcinosis universalis. However, it has a good prognosis and is not associated with tumors. Group V, overlap syndrome associated with myositis, has usually come to mean patients with connective tissue disease. These younger patients usually have a strong female predominance; their serology may be positive for ANA or rheumatoid factor, and they may present with arthralgia, myalgia, Raynaud's phenomenon, and cardiopulmonary abnormalities. Their muscle biopsy abnormalities are usually relatively mild.

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The Dislocated Hip Joint

I. Leighton Millard, M.D.*

The major reason for discussing this injury is to wave a red flag. It is very easy, when dealing with trauma to the lower extremities, to overlook disruption of the femoro-acetabular joint. Take the following case for example.

An automobile rear-seat passenger is thrown forward in an accident. He (usually the male) has been sitting in an ankle-crossed on-the-opposite-knee position. Following the accident, he has obvious trauma in the form of a fracture of the tibia or femur, or both. If close attention is not paid to clinical and x-ray examination of the hip joint, the posterior dislocation can be easily missed. (Fig. A)

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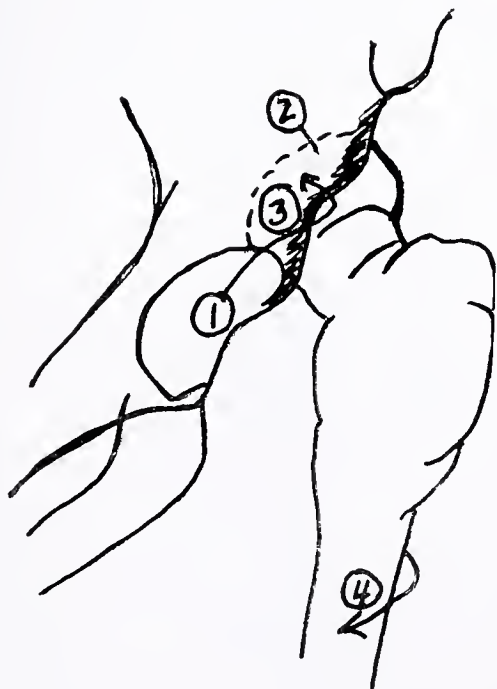


Figure A.

1. Femoral head is up and back.
2. Head is on dorsum of ilium.
3. Head is above and behind acetabulum.
4. Femur is adducted and internally rotated.

If a number of hours go by before diagnosis and treatment of the dislocation, irrevocable damage can occur to the femoral head.

I think it is important to direct diagnostic attention to the hip first, and with this as a reference point, proceed to rule out possible injuries. It is apparent from the first illustration (Fig. 1) that the position of the knee is the first key. If the knee is displaced toward the uninjured leg with relative flexion at the hip, this is strong evidence of a posterior dislocation of the hip. In other words, flexion and adduction of the femur *must* be investigated and explained before proceeding with treatment of other injuries.

If a fracture of the femur is present and has been treated with first-aid before the doctor sees it, the femur may be in the flexion adduction position. Certainly, however, there will be swelling of the thigh to help differentiate femur fracture from hip injury.

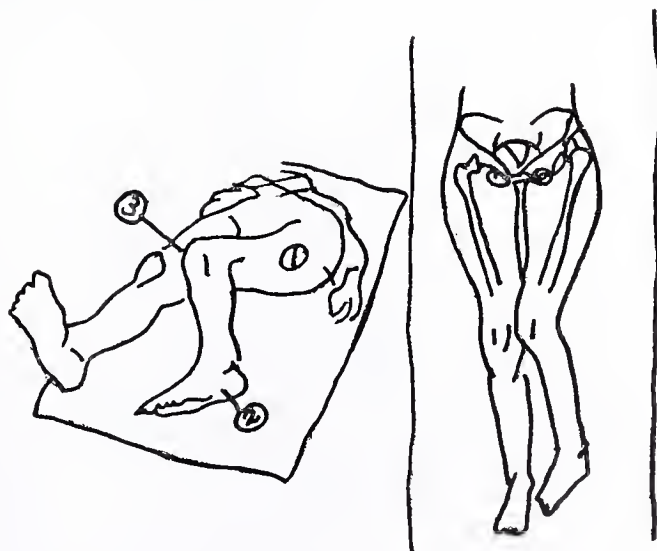


Figure 1.

1. Femur is flexed and adducted and internally rotated.
2. Leg is shortened.
3. Knee rests on opposite thigh.

THE DISLOCATED HIP JOINT

On the other hand, a position of external rotation, abduction and extension (Fig. 2) may represent either a fracture of the femur or hip joint disruption. This may be an interior dislocation. (Fig. 3)

Why is it so important to diagnose and treat the hip first? To answer, it is necessary to discuss some of the anatomy of the ball and socket joint we call "The Hip".

This joint has bony stability because of the encircling nature of the acetabulum. There is, however, strong ligamentous support. In addition, the ligaments (capsule) of the posterior joint are closely related to the major blood supply of the femoral head. Since the ligamentous and ligament teres (Fig. 4) blood supply are obviously disrupted in a dislocation, it is important to do all we can to restore the blood supply to the femoral head as early as possible.

Early reduction does not preclude later compli-

cations, but statistically, avascular necrosis of the femoral head appears more often when reduction is delayed. Immobilization and non-weight bearing are also extremely important in holding down the incidence of necrosis.

It is evident from Figures 5, 6, 7, and 7B that



Figure 4.
1. Arterial supply to posterior femoral head.
2. Artery of the ligamentum teres.

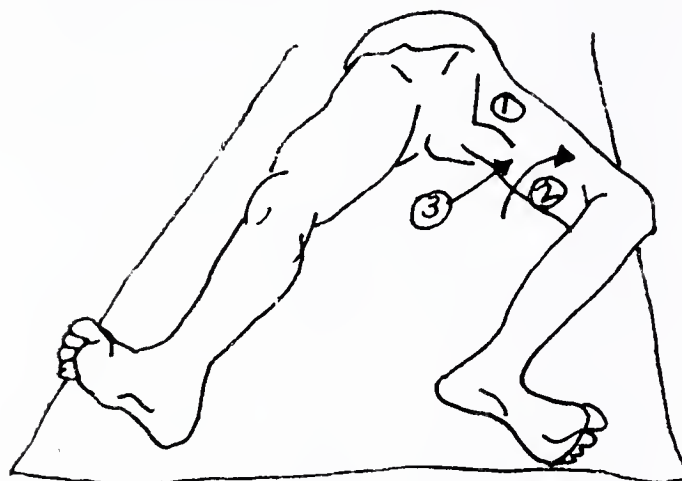


Figure 2.
1. Hip is flexed.
2. Thigh is externally rotated.
3. Thigh is abducted.

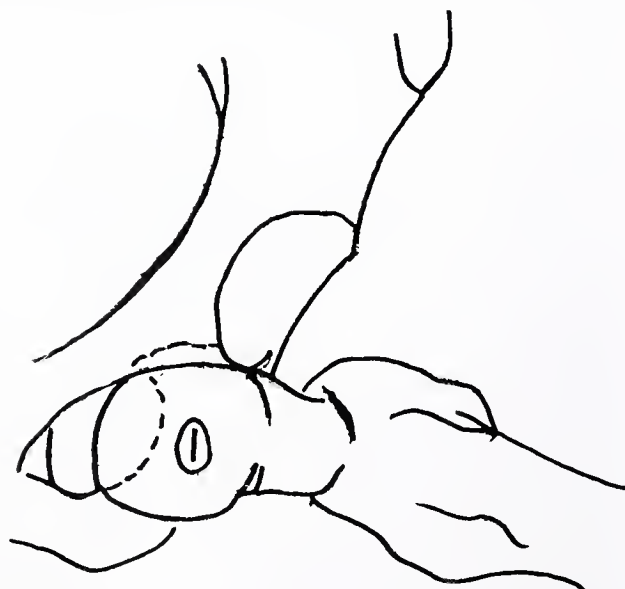


Figure 3.
1. Femoral head is anterior on the obturator foramen.
2. Femur is abducted and externally rotated.

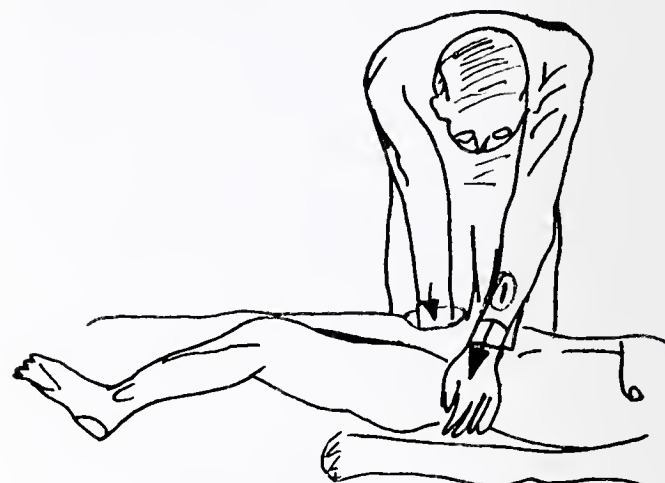


Figure 5.
1. An assistant applies pressure on the anterior superior spines.

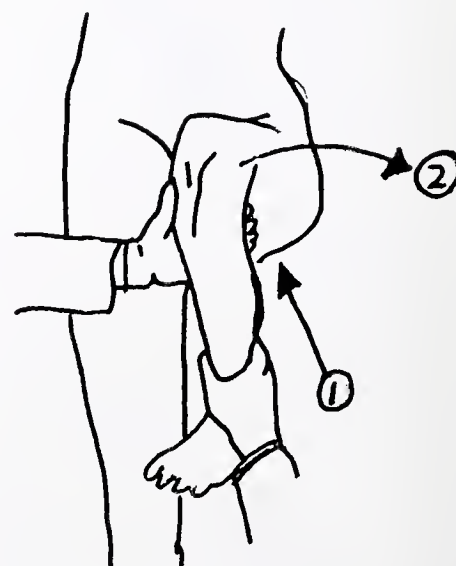


Figure 6.
1. Flex the hip and knee to a right angle.
2. Rotate femur to neutral position.

the maneuvers for reduction require two people and some considerable force. How, then, does one accomplish this when there are associated fractures of the femur and/or tibia. If the patient's general condition will permit, it is best to use general anesthesia and percutaneous pin transfixion (Fig. 8) through the proximal fragment of either femur or tibia in order to be able to apply the traction and manipulation forces to the hip joint. These pins may also be used for traction and/or cast immobilization later.

It should be pointed out that most hip dislocations, uncomplicated by extremity fractures, can be reduced by traction and manipulation under IV-anesthesia with Demerol and Valium. This, of course, depends on the patient's general condition.

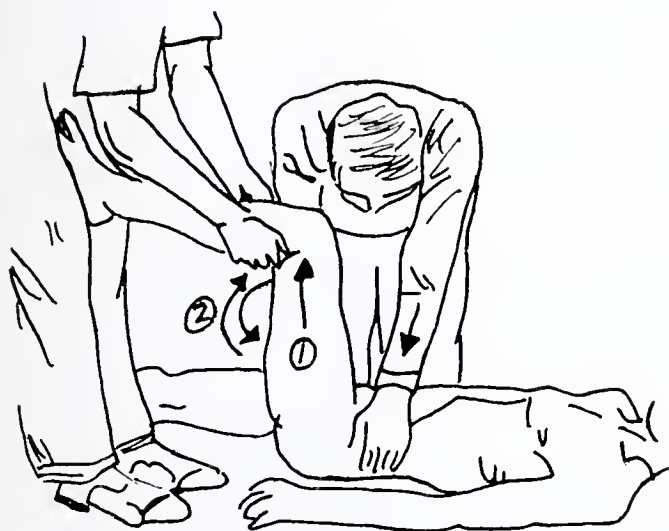


Figure 7.

1. Make steady traction upward on the leg.
2. It may be necessary to use gentle internal and external rotation of the leg.



Figure 7-B.

1. Post reduction—the head is in the acetabulum.
2. Shenton's line is smooth and unbroken.

Further mention of the problem of avascular necrosis of the femoral head is necessary. (Fig. 9)

This problem may be delayed in appearance (clinically and by x-ray) for as much as 18-24 months. Therefore, it is important to get the patient to observe non-weight bearing for at least 6-8 weeks (healing time for the ligaments and blood supply) and to have follow-up x-rays for two years to watch for necrosis in spite of the fact that most patients are asymptomatic.

It can be said that those dislocations treated by reduction within 12 hours have an 18% incidence of avascular necrosis, but reduction after 12 hours is associated with a 57% incidence.¹

It is also necessary to discuss the dislocation of

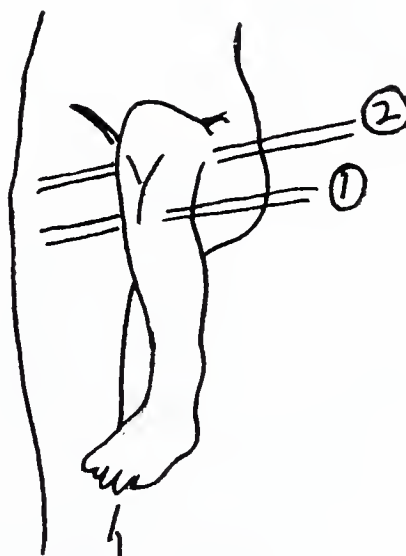


Figure 8.

1. Transfixion pin-tibia.
2. Femur.



Figure 9.

1. Increased density.
2. Collapsed and flattening femoral head.
3. Irregular surface head.

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the hip joint that occurs with fracture of the acetabulum or femoral head. (Fig. 10)

These injuries should be treated by early closed reduction and, usually, delayed surgical intervention.

One other problem and complication of hip dislocation must be brought out. Referral to Figure 11 will show the close proximity of the sciatic nerve to the posterior hip joint. Therefore,



Figure 10.
1. Posterior dislocation of the femoral head.
2. Acetabular fragment.

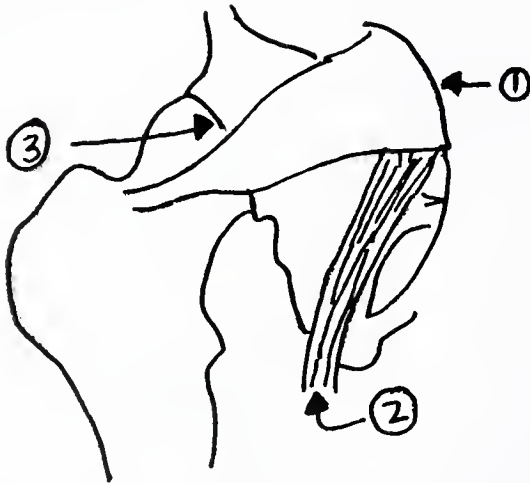


Figure 11.
1. Piriformis muscle.
2. Sciatic nerve.
3. Posterior hip joint.

it is important to carefully examine and document motor and sensory nerve function in the foot of the injured limb before—repeat—before reduction is attempted. If the patient can dorsiflex the great toe and foot and feel sharp and blunt pressure on the sole, the nerve is not damaged. In those cases of sciatic neuropraxia from stretch injury, most will recover spontaneously during the initial 3-4 weeks of treatment. Surgical exploration of the nerve is usually reserved for those stretch palsies that do not recover in 4-6 weeks.

It is evident that the traumatic dislocation of this strong and important joint is not only initially shocking to the patient, but can be a severely disabling, long-term problem because of soft tissue damage that leads to degenerative joint changes. (Fig. 12)

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Figure 12.
1. Narrowed joint space.
2. Cysts in femoral head.
3. Flat and irregular articular surface.





ELECTROCARDIOGRAM

OF THE MONTH

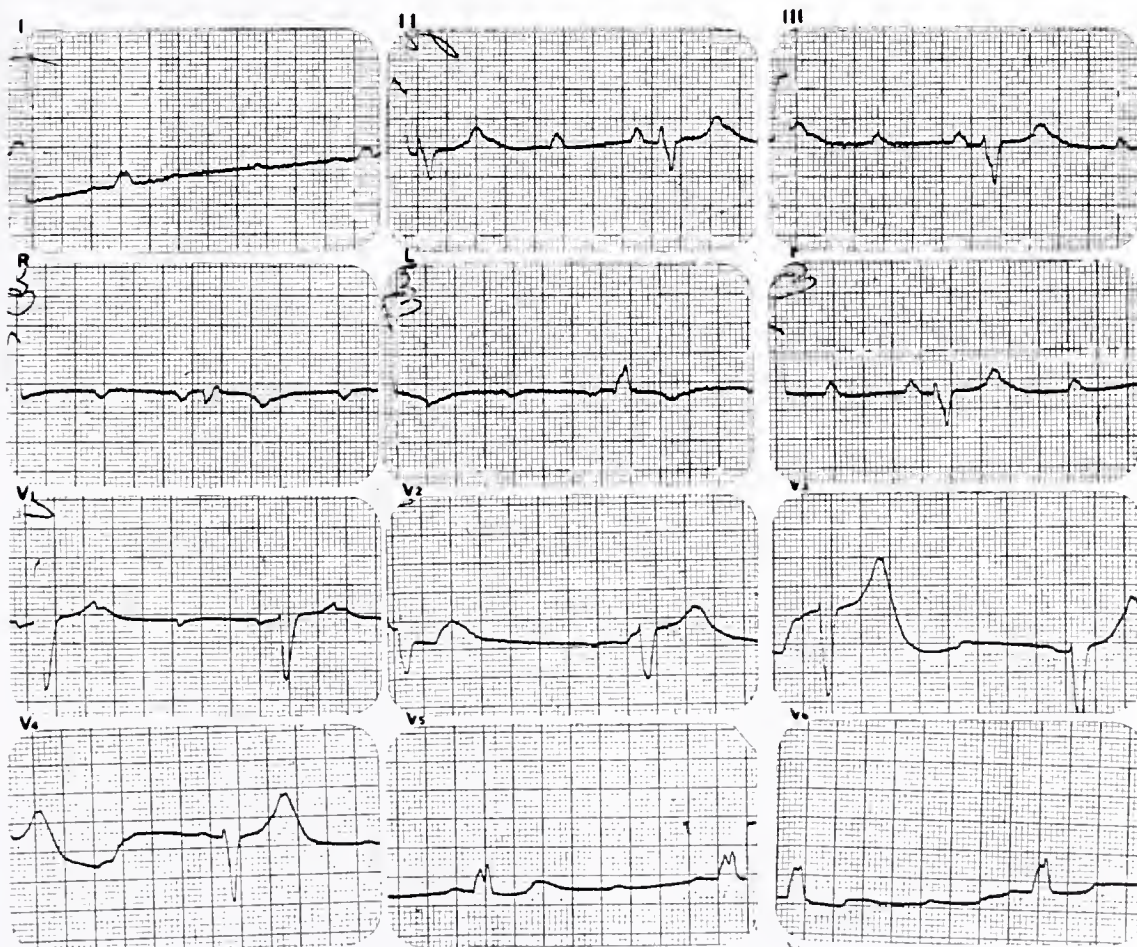
The Department of Cardiology, University of Arkansas College of Medicine

(See Answer on Page 376)

HISTORY: Mr. H. is a 75-year-old male who has presented to the Emergency Room with a chief complaint of shortness of breath. He indicates that he has had dyspnea on exertion for many years and gives the interesting history that he started taking his wife's heart medication two weeks prior to this presentation with worsening of his shortness of breath and exertional dyspnea in the interim. He has two pillow orthopnea, but denies recent chest pain. A review of his and his wife's records has shown that she has congestive heart failure and that he has emphysema and mild chronic renal failure. Physical examination reveals an emphysematous elderly man in no distress. His blood pressure is 180/70 mm Hg. The patient's heart sounds are not audible. A chest film shows emphysema and a normal heart size. Serum electrolytes, BUN, creatinine, and digoxin level are all pending; the electrocardiogram is shown.

Which one of the following modalities of treatment would be most proper at this point?

1. Immediate positioning of a transvenous pacemaker.
2. Direct current cardioversion.
3. Administration of potassium chloride.
4. Discontinue offending medications and observe.



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Sudden Infant Death Syndrome

Current Perspectives from the Arkansas SIDS Information and Counseling Project

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Each year in Arkansas the sudden infant death syndrome (SIDS) claims the lives of 60 to 80 infants. In the United States 8,000 babies die annually from SIDS. It is the number one cause of death in infants between the first month and first year of life, accounting for 2-3 deaths for every 1000 live births.¹

Perhaps no other medical event imaginable produces such tragic sequelae as the sudden and unexpected death of a presumably healthy infant. The majority of these children are found dead in early morning hours, having died quietly during sleep and having shown no signs of preceding distress. Although SIDS has been recognized and commented upon throughout recorded history, very little has been known about it until recently.

The term, SIDS, should be reserved for the sudden and unexpected death of an infant, usually between one month and one year of age, in whom an autopsy reveals no apparent cause of death. Most victims are between two and four months of age at the time of death.

A number of other epidemiologic facts regarding SIDS are now well recognized. The syndrome occurs throughout the year but clustering of cases is common, and the incidence is highest in winter months. This seasonal variation is clearly observable in the SIDS cases occurring in Arkansas (Figure 1). The ratio of males to females is about 3:2 in most studies. Children from all socioeconomic groups are affected, but in most studies the incidence is slightly higher among the poor. The incidence is greatly increased in ex-premature infants with the risk of SIDS in an infant weighing four pounds at birth being ten times greater than in an infant whose birth weight is eight pounds.² About 30 to 50% of victims have a history of a

recent, mild, upper respiratory infection, but no evidence exists for an overwhelming infection as the cause of death.¹ Studies have shown that the risk is no different in bottle fed babies compared with breast fed infants.¹ Nor is there any evidence that suffocation causes the death. To date, no definite evidence of a genetic predisposition is known. A possible exception occurs in the case of twins. Recent studies have shown that when a twin dies from SIDS, the surviving twin has a significantly greater risk of succumbing to SIDS than an infant in the general population.³

Though certain autopsy findings are typical of SIDS, no cause of death is obvious. Most victims have evidence at autopsy of changes suggesting antecedent recurrent or chronic hypoxemia.^{4,5,6} This pathologic data correlates closely with clinical information recently obtained regarding sleep apnea in infants.⁷ Today, many investigators are focusing attention on problems of respiratory control and the developmental changes in the complex neural control mechanisms known to occur within the first few months after birth.

Clinical and laboratory evidence has begun to emerge that suggests a correlation between infants who have recurrent prolonged apnea and their risk of dying from SIDS.⁷ But so many questions remain unanswered that it is still inappropriate to draw a cause-and-effect conclusion. Many "normal" children may demonstrate occasional brief apneic episodes, and not all children who die of SIDS have a history of apnea.

In 1974, Congress passed the Sudden Infant Death Syndrome Act making federal money available for the establishment of SIDS projects which would offer services to families who lost infants to SIDS, and collect data relating to the cause of this syndrome. Arkansas was one of the first states to apply for and receive such a grant. The Arkan-

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SIDS DEATHS - 1977

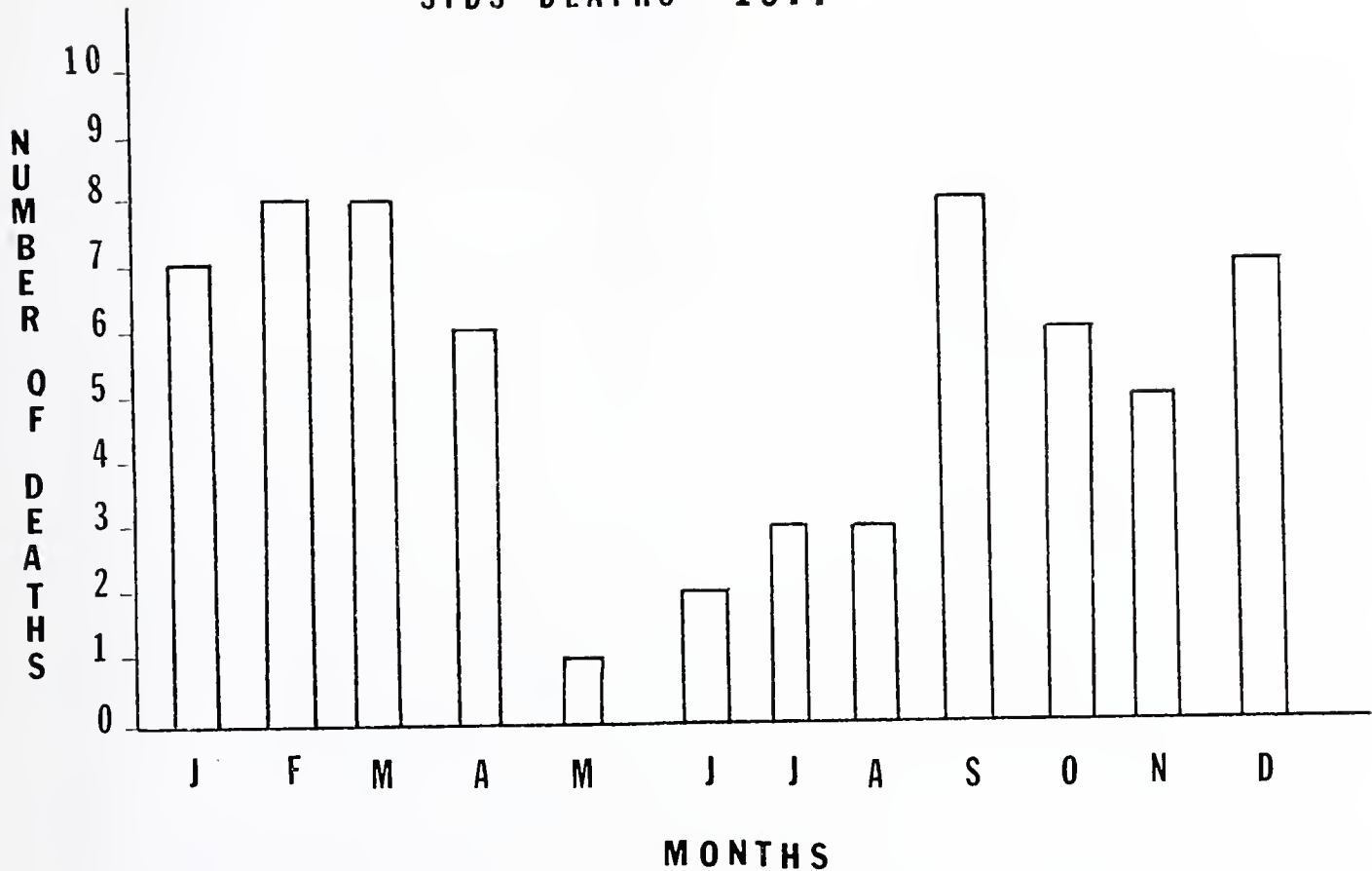


Fig. 1. A total of 64 cases, was identified in 1977 resulting in an incidence rate of 1.9/1000 live births.

sas SIDS Project has operated since July, 1975, under the Maternal and Child Health Division of the Arkansas Department of Health. The objectives of the Project are to provide the following:

1. Autopsies in all sudden, unexpected deaths of infants up to one year of age.
2. Certification of SIDS on the death certificate.
3. Prompt notification of the parents about the cause of death, preferably within 24-48 hours.
4. Education programs for health care providers, public safety officials and the public.
5. Counseling for families affected by a sudden infant death syndrome loss.

When a suspected SIDS victim is referred to the project, the first step is to obtain parental permission for an autopsy which is provided and paid for by project funds at no expense to the family. An autopsy is important since it is the only means of confirming the cause of death. For many SIDS parents, knowing with certainty the cause of their child's death is vitally important in alleviating the fear that they may have somehow been responsible for the death.

Once a diagnosis of SIDS is confirmed by ruling out other causes of death and confirming the presence of the gross and microscopic changes typical of SIDS, the family is notified and a time is set for a home visit. During this visit, the family is counseled regarding the facts known about SIDS and the bereavement process which naturally follows a loss of this kind. Since guilt feelings usually play a large part in the grief reaction, one of the most important functions of counseling is to reassure the parents that they are in no way to blame for the death. A nurse coordinator is employed by the project to provide counseling to SIDS families when the physician requests it. Often local public health nurses aid in the counseling and provide continued support to these families. Such efforts are deemed important since previous studies have shown a striking incidence of particularly severe and intense grief reactions, often resulting in family disintegration, following a SIDS death.^{8, 9, 10, 11}

Not only are there problems for the parents to face in dealing with their personal grief, but community reaction to the incident may reflect suspicion and disbelief as a result of ignorance

regarding SIDS.^{2,10} It is for this reason that the Arkansas SIDS project conducts an extensive public education program designed to increase understanding of SIDS and to teach others how to respond intelligently and compassionately to families who have experienced this tragedy. As of July, 1978, the project had presented 90 educational programs to 6,800 persons representing professional and lay groups including coroners, physicians, nurses, emergency medical technicians, policemen, firefighters, college and high school students, and members of various civic organizations.

Since its beginning three years ago, the Arkansas SIDS Project has identified 191 cases of suspected SIDS. Of these, 117 have been autopsied and 20 were found to be from causes other than SIDS. Excluding these 20, the project identified 171 deaths classified as SIDS. Of this number, 97 were confirmed by autopsy while the remaining 74 were identified by history alone since no autopsy was done.

In many instances where an autopsy was not accomplished, the case was discovered by checking death certificates from vital records. Often an autopsy had not been made available to these families at the time of their child's death and they had not been told of the services offered by the SIDS project. In such cases the cause of death is usually recorded as "suspected SIDS". When these cases were discovered, counseling was initiated with these families in the same manner as with those families in whom SIDS had been confirmed by autopsy.

In analyzing the data available for the 171 SIDS cases identified in Arkansas, the incidence was found to be 1.8/1000 live births. This is lower than the national figures of 2.3/1000 live births. This difference may be due to the fact that some SIDS deaths in Arkansas are still not being identified and are being recorded on death certificates by other, inaccurate terms such as "suffocation", "pneumonitis", and "natural causes". The distribution of SIDS deaths as seen in Figure 2 closely reflects the distribution of the population within our state allowing for some variations in completeness of reporting and differences in racial distribution.

Of the 171 SIDS victims identified, 62% were male. This represents a ratio of 3.3 males for every 2 females; very close to the 3 to 2 male/female ratio reported in most studies.¹ But racial

distribution of SIDS cases in Arkansas is strikingly different from figures reported to date which indicate a higher incidence of SIDS in blacks than in whites. This difference has previously been reported to be 2.9/1000 live births in blacks as compared to 1.3/1000 live births for whites.³ Figures in our state indicate a higher number of white victims (57%).

The average age of death for male babies in Arkansas was 3.4 months, however 2 of the boys were 2 years or older. If these are excluded, the average age is 3.0 months. The average age of death for female infants was 3.0 months and no girls over 2 years were identified. Of the total, only 4 infants were more than one year of age and only 12 were less than one month old. These findings regarding age distribution are consistent with figures previously reported¹ which indicate that nearly all SIDS deaths occur within the first year of life and the majority occur between the second and fourth month.

As medical attention has increased and become more clearly focused on SIDS, other problems have been identified. Certainly the most disconcerting of these is the so called "near miss" case. It is not a new problem, but the implications for the physician, of a child who has had a transient apneic spell at home, are now considerably broader. Is such a child likely to have more spells? Does the child have an increased risk of SIDS? Can future spells be prevented? Does the child suffer from any specific disease? Final answers to these questions are not yet clarified, yet they represent a very real dilemma for the physician who must face a frantic mother who has just found her baby breathless and cyanotic.

The baby most likely was resuscitated with simple stimulation or brief mouth to mouth resuscitation. Such a baby looks entirely well when examined and one of the first questions to be answered is whether or not the cyanosis was real or imagined. Once it has been determined that the infant has had a significant apneic episode resulting in cyanosis, whether it be a transient spell that was terminated spontaneously or whether the child was resuscitated successfully; the baby should be admitted to a hospital for complete evaluation. No physical abnormalities may be apparent at examination, yet one must immediately rule out septicemia or other underlying major infections. Neurologic abnormalities including a seizure disorder should be considered.

SIDS DEATHS BY COUNTY

July 1975 to July 1978



Fig. 2. The total number of SIDS deaths during this 3-year period was 171.

Hypoglycemia and hypocalcemia should also be ruled out. An electrocardiogram and a chest radiograph should be obtained to exclude congenital heart disease or a cardiac arrhythmia. Once the initial evaluation has been completed and the physician is left with the diagnosis of apnea of undetermined etiology (near miss SIDS), the child should be observed carefully for several days to insure persistence of a normal respiratory pattern.

Based on the authors' experience and that reported in the current literature, it is common for a baby who is going to have future apneic episodes to have an abnormal respiratory pattern, particularly during sleep. Often such an infant will

have recurrent and brief apneic spells within a few days after being admitted for observation. If recurrent apneic episodes are documented, then a significant risk for sudden infant death syndrome must be recognized.^{12,13} This is the baby that should be observed most carefully and each case must be individualized as to consideration for more extensive hospital or home monitoring.

Controversy exists regarding the relative advantages and disadvantages of home monitoring.^{12,13,14} Our own policy is to admit such an infant to the hospital if we are convinced that a significant apneic spell has occurred. We take a similar approach for the surviving twin of a SIDS victim. Underlying illness is ruled out, and if the

respiratory pattern remains entirely normal for 7-10 days then the baby is discharged and followed conservatively. If recurrent apneic episodes occur, the infant is monitored for a more extended period of time. In selected cases such babies are sent home with an impedance type apnea monitor. Of course, no guarantee can be made for any of these babies that future fatal spells will not occur. Nor is there any guarantee that resuscitation even by skilled personnel will invariably be successful. Though some authors believe that long term monitoring does reduce the chance for sudden death,¹² there is a significant psychological risk to extensive and prolonged home monitoring, and one must weigh carefully the relative advantages and risks of placing a respiratory monitor in the home.¹⁵

The lay press has brought to the public's attention and dramatized the use of apnea monitors in the home for infants at risk for SIDS. (A couple near Little Rock recently sought to rent an apnea monitor without medical consultation.) Many questions in this area remain completely unanswered. For example, no precedent has yet been established in regard to product liability when apnea monitors are used in the home. Anyone with experience in their use in a hospital knows the technical problems related to false positive and false negative alarms.

This discussion has certainly raised more questions than it has answered. But that is not a unique problem in a field where new information is being gained so rapidly. As the pieces of the puzzle begin to come together, a clearer pattern of clinical management for the "near miss SIDS" infant will hopefully be realized. Until then, every case must be managed individually with careful consideration of all the facts available to date.

The success of the Arkansas SIDS project in identifying SIDS cases within our state and providing services to stricken families is largely dependent upon the cooperation of physicians. Since it is most often a physician who pronounces the infant dead, he is in a position to recommend an autopsy and to refer the family to the project. Referral of suspected SIDS cases can be made by calling the Arkansas Department of Health at 661-2485 or 661-2473. Arrangements can then be

made for transportation of the body to the University of Arkansas for Medical Sciences where an autopsy will be performed through a contractual agreement with the UAMS Department of Pathology. The counseling process can then be initiated with the affected family. In cases where the parents are unwilling to give consent for an autopsy, the counseling process can still be carried through if it is the opinion of the attending physician that the cause of death was most likely the Sudden Infant Death Syndrome.

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EDITORIAL

Lipids

Alfred Kahn, Jr., M.D.

Lipid metabolism has been in the forefront of the public's and the physicians' mind because of the linkage between arterio sclerosis and fat like substances. This interest has been intensified by articles in the lay press and drug firm advertising. There has been a strenuous effort to educate the public to avoid animal and milk fats as a means of controlling high blood cholesterol, for example; the efficacy of this program has been questioned by some investigators.

"The Pathophysiology of Lipoprotein Transport" is the title of an excellent article by Brunzell, Chait and Bierman (*Metabolism*, Volume XXVII, page 1109, September, 1978). They point out the structure of lipoproteins is designed to enable lipids to dissolve in plasma; lipoproteins have a core cholesterol esters, triglycerides, etc. which are surrounded by a surface layer of proteins, phospholipids, etc. arranged in a monolayer. These lipoproteins can be separated into classes by ultracentrifuge or by electrophoresis. The lipoproteins act as the carrier of food stuffs, which are not immediately burned. Excess energy is carried as triglyceride; cholesterol is also carried in the lipoprotein carrier molecule from its source in the liver to the peripheral cells. Brunzell et al says that the youngest lipoproteins form very low density lipoproteins. The molecules change in size as they are metabolized; there is a spectrum of size variations. The lipoproteins remnants are further metabolized in the liver and become low density lipoproteins. The source of materials for these low density lipoproteins can be endogenous or exogenous.

The authors state that there are four regulatory sites to consider in disorders of lipid transport: triglyceride-rich lipoprotein input, lipoprotein lipase mediated triglyceride metabolism, remnant metabolism and extra hepatic cholesterol rich lipoprotein catabolism.

Broken down triglycerides are absorbed through the small bowel and are reconstituted in the form of chylomicrons which are lipoproteins. This level of chylomicrons varies greatly; it goes up after each meal. Endogenous sources also contribute to triglyceride rich lipoprotein—fatty acids are formed in the liver—and fatty acids from extra hepatic sources are made into triglycerides. Liver forms triglyceride rich, very dense, lipoproteins the majority of triglyceride is said to come from the diet. Among the causes of increased triglyceride input: postprandial state or increased endogenous from familial disease, hyperinsulinemic states (obesity, estrogen, growth hormone, etc.) and alcohol.

Another regulatory agent lipoprotein lipase. The authors relate that chylomicrons and very low density lipoproteins enter fat cells under the catalyzed effect of lipase. It is carried from its source in fat cells to endothelium where it breaks down triglycerides. Some of the fatty acid then moves via the blood stream to fat cells where it reforms triglycerides. This lipase is said to be induced by insulin. Eating increases this lipase activity by increasing insulin output. A similar intracellular hormone sensitive lipase works in coordination to help regulate fat metabolism. Decreased triglyceride catabolism can be due to decreased lipoprotein lipase and Brunzell et al lists the causes as primary due to absence of the enzyme or its activator called apoprotein CII; or it may be secondary to insulin deficiency, hypothyroidism or uremia.

Remnant lipoproteins are formed in the breakdown process of triglyceride rich lipoproteins. It is said to be extracted from the blood stream and by the liver and formed into cholesterol rich lipoprotein. These eventually form low density lipoproteins. Abnormal hepatic remnant lipoprotein catabolism is cataloged by the authors as

primary blood beta disease or secondary to hypothyroidism or biliary-liver disorders. In short, there can be disorders characterized by excessive remnants that are also known as blood beta disease.

Brunzell et al state that low density lipoprotein catabolism is the major source of cholesterol for the extra hepatic tissues. The cholesterol is released inside the cell from the low density lipoprotein molecule. Abnormal low density lipoprotein catabolism is said to occur with familial hypercholesterolemia due to reduced or abnormal low density lipoprotein receptors or secondary from hypothyroidism.

The authors devote a section to lipoprotein membrane metabolism. Newly formed lipoproteins are said to be surrounded by a monomolecular layer which contains protein phospholipids and unesterified cholesterol. They state that as the core is used up there is an excess of membrane. The excess membrane has several channels of catabolic activity. Apparently, lipoprotein mem-

brane excess interacting with other chemicals forms high density lipoproteins which act as a shuttle moving cholesterol to the liver and also as a carrier for apoprotein CII. The disease states involving this regulatory mechanism include a primary familial disease producing this type of hyperlipidemia plus a type that is secondary to the nephrotic syndrome and hypothyroidism.

Brunzell, Chait and Bierman discussed marked hypertriglyceridemia. Patients with high blood triglyceride levels usually have chylomicrons which persist for a very long time after eating—longer than twelve to fourteen hours. The system for removal of the chylomicrons appears to be defective. Liver disease may be associated with abnormal lipoprotein states arterio-sclerosis in younger patient may be the result of disordered lipoprotein metabolism.

The blood lipids are a complex subject that needs further clarification before the full clinical impact can be determined.



MEDICINE IN THE



New Chancellor Named

Dr. Harry P. Ward has been selected to succeed Dr. James L. Dennis as Chancellor of the University of Arkansas for Medical Sciences Campus in Little Rock. His appointment is effective March 15, 1979.

Dr. Ward comes to Arkansas from Colorado. He is former dean of the University of Colorado School of Medicine at Denver.

Dr. Ward received a Bachelor of Arts degree from Princeton University and a Doctor of Medicine degree from the University of Colorado. He also has received a Master of Science degree in Chemistry from the University of Minnesota. Dr.

Ward interned at Bellevue Hospital in New York. He was a resident in Medicine and a Hematology fellow at the Mayo Clinic at Rochester, Minnesota. He joined the Colorado Medical Center at Denver in 1964 as its chief medical resident. He was chief of medical service for the Veterans Administration Hospital at Denver for five years while he was on the School of Medicine faculty.

Dr. Ward became Dean of the Colorado School in 1972 and resigned in June 1978 to return to teaching.

Dr. Ward is married to the former Betty Stewart of Pueblo, Colorado, and has five children ages 13 to 21.

keeping up

Category 1 Continuing Medical Education Programs Available in Arkansas

HYPERTENSION SEMINAR

Presented by Dr. Louis Sanders, Dr. Harold W. Schnaper and Dr. James G. Johnson. 8:30 a.m. until 12:30 p.m., *APRIL 7, 1979*. Baptist Medical Center Auditorium, Little Rock. Four hours Category I credit. No fee.

LABORATORY AIDES IN THE DIAGNOSIS OF THE RHEUMATIC DISEASES — AN UPDATE

Presented by Dr. Donald G. Leonard and Dr. Christos C. Papaioannou. 6:30 p.m., *APRIL 10, 1979*. Education Wing, Room E-155, St. Vincent Infirmary, Little Rock. One hour Category I credit. No fee, buffet and beverages provided.

CYTOLOGY COLPOSCOPY AND MANAGEMENT OF CERVICAL INTRA-EPITHELIAL NEOPLASIA

Presented by Dr. Marion M. Church and Dr. Douglas Young. 6:30 p.m., *APRIL 16, 1979*. Memorial Hospital, North Little Rock. One hour Category I credit. No fee.

CLEFT PALATE CONFERENCE

12:30 p.m. until 1:30 p.m., *APRIL 18, 1979*. Education Wing, Room E-159, St. Vincent Infirmary, Little Rock. One hour Category I credit.

RECURRING EDUCATION PROGRAMS

Unless otherwise indicated, programs are for one to one and one-half hours Category I credit.

INTER-HOSPITAL GI PROBLEMS CONFERENCE, First Monday of each month, 6:00 p.m., St. Vincent Infirmary, Little Rock.

PULMONARY CONFERENCE, Every Tuesday of each month, Noon until 1:00 p.m., Baptist Medical Center, Dining Room #4, Little Rock.

INTER-HOSPITAL UROLOGY GRAND

ROUNDS, First Tuesday of each month, 5:30 p.m., St. Vincent Infirmary, Little Rock.

CENTRAL ARKANSAS PRIMARY CARE CONFERENCE, Second Tuesday of each month, 7:00 p.m. to 9:00 p.m., Baptist Medical Center Auditorium, Little Rock. Two hours Category I credit.

NEUROPATHOLOGY CONFERENCE, Third Tuesday of each month, 5:00 p.m., St. Vincent Infirmary, Little Rock.

ST. MICHAEL TUMOR CONFERENCE, First Wednesday of each month, 7:00 a.m. (break-fast), St. Michael Hospital, Texarkana.

CARDIOPULMONARY RESUSCITATION COURSE, Second Wednesday of each month, 6:30 p.m. until 10:30 p.m., Baptist Medical Center, Human Resource Development Area. Four Hours Category I credit. Light meal provided.

ST. MICHAEL CHEST CONFERENCE, Third Wednesday of each month, 12:30 p.m. (lunch), St. Michael Hospital, Texarkana.

MORBIDITY AND MORTALITY CONFERENCE, First Thursday of each month, 8:00 a.m. to 9:00 a.m., Baptist Medical Center, Conference Room #1, Little Rock.

PULMONARY CONFERENCE, First and Third Thursday of each month, 12:00 Noon, St. Vincent Infirmary, Little Rock.

SURGERY CONFERENCE, Second, Third, and Fourth Thursday of each month, 8:00 a.m. to 9:00 a.m., Baptist Medical Center, Conference Room #1, Little Rock.

MEDICINE CONFERENCE, First and Third Friday of each month, 7:45 a.m. to 8:45 a.m., Baptist Medical Center, Conference Room #1, Little Rock.

As organizations accredited for continuing medical education by the Liaison Committee on Continuing Medical Education, the organizations named certify that these continuing medical education activities meet the criteria for the credit hours specified in Category I of the Physician's Recognition Award of the American Medical Association.



PERSONAL AND NEWS ITEMS

Dr. Ditsch Appointed

Dr. Craig E. Ditsch of Lewisville has been appointed to a three-year term on the State Emergency Medical Services Advisory Council.

Eudora Physician

Dr. P. Sinlar has located in Eudora for general practice. His office is in the new Chicot County Health Center.

Civic Service

Dr. John H. Delamore is serving as 1978 president of the Fordyce Chamber of Commerce. He is also president of the Fordyce Rotary Club and is Chief of Staff at the Dallas County Hospital.

Cardiology Society

Dr. Joe Bissett of Little Rock, American College of Cardiology Governor for Arkansas, recently announced that Drs. Frederick A. Bennett and David E. Smith of Little Rock have been admitted to Fellowship in the American College of Cardiology.

Physician Speaks

Dr. W. E. Knight of Fort Smith addressed a January Regional Vocational Rehabilitation meeting on "Rehabilitative Potentials With Total Hip Replacement."

Dr. Hayden Honored

Dr. William F. Hayden of Little Rock has been named a Fellow of the International College of Surgeons.

Medical Staff Elections

Dr. J. W. Vinzant of Fayetteville has been selected as 1979 Chief of Staff for Washington Regional Medical Center. He is a family physician and general surgeon.

Dr. Donald B. Baker, a Fayetteville family physician, was named Vice Chairman of the Board of Governors for the Regional Medical Center.

Pediatrician Elected

Dr. R. Kingsley Bost of Russellville has been elected to fellowship in the American Academy of Pediatrics.

Van Buren Specialists

Drs. Kevin Crowley and Henry Edwards, who

specialize in Internal Medicine, will begin practice in Van Buren in July.

Surgery Fellow

Dr. Michael L. Hawkins of Mountain Home was recently named a Fellow of the American College of Surgeons.

Dr. Wilson Elected

Dr. Harold Wilson was named Chief of Staff for the Drew Memorial Hospital for 1979.

Dr. Morris Is 104

Dr. J. W. Morris of McCrory observed his 104th birthday in February.

Physician Testing Device

Dr. James A. Arnold, a Fayetteville orthopaedic surgeon who is team physician for the Arkansas Razorbacks, is working with an assistant professor of electronics at the University of Arkansas Graduate Institute of Technology in evaluating a new instrument to measure and record high-speed movement of the human knee. The Washington Regional Medical Center is supporting the one-year research project.

Dr. Massey Honored

Dr. L. D. Massey of Osceola was recently recognized for seventeen years of outstanding service on the Board of the South Mississippi County Cancer Society.

Family Physicians

Dr. Oliver Wallace of Green Forest has recently been certified as a Diplomate of the American Board of Family Practice.

Doctors Locate

Dr. Joseph B. Pierce has located in DeQueen for association with Dr. O. D. Brown in general practice.

Dr. Ly Knoc Doung has opened an office for general practice in Marianna.

Dr. Saltzman Speaks

Dr. Ben Saltzman addressed the Rotary Clubs of Harrison and Mountain Home in January. He traced the development of the University of Arkansas for Medical Sciences over the past one hundred years.

Extension Homemakers Program

Dr. E. Clinton Texter, Jr., of Little Rock, has recently assisted the Arkansas Extension Homemakers Council in a statewide program on detection of colorectal cancer.

HEALTH PROFESSIONS SCHOLARSHIPS

University of Arkansas medical student Bob Klinger was recently selected to receive one of only thirty-five Air Force Health Professions scholarships offered this fiscal year to medical school students graduating in 1981, according to Captain Boyd Kleefisch, Air Force Medical recruitment officer for Arkansas.

Bob won the scholarship in nationwide competition. The scholarship provides for tuition, books, lab fees and equipment, plus a \$400 monthly stipend.

Upon graduation from medical school, Bob, a 25-year-old second year student at the University of Arkansas College of Medicine, will be commissioned as a Captain and serve in the Air Force Medical Corps for three years. He may do his internship in an Air Force Program or request a deferment allowing him to participate in a civilian internship. He may also compete for residency training.

Captain Kleefisch added that current undergraduate pre-medical students who have been accepted to medical school, and first year medical students scheduled to graduate in 1982, may now compete for several hundred Air Force Health Professions scholarships available to them. Anyone interested in more information should contact TSgt Howard McDermott, 711 Stanton L. Young Blvd., Suite 111, Oklahoma City, OK 73104, or call collect (405) 231-5247.



THINGS TO COME



The Department of Medicine
University of Arkansas for Medical Sciences
Medicine Grand Rounds

8:00 a.m., Thursday, April 19, 1979

Auditorium, Education I Building

Presents

"Snakebite and Snakebite Management"

Sherman A. Minton, M.D., Ph.D.

Professor

Department of Microbiology
University of Indiana School of Medicine
Indianapolis, Indiana

This presentation is being sponsored by the Arkansas Medical Society and all members of the Society are invited to attend. Following Grand Rounds, the Department of Microbiology and Immunology, UAMS, with the cooperation of the

Zoo of Arkansas will present a demonstration of live, indigenous, venomous reptiles and arthropods in the old library quarters, Education I Building.

* * * *

The University of Tennessee for the Health Sciences College of Medicine will sponsor the Fourth Annual Reproductive Medicine Symposium on "Use of Sex Steroids in Clinical Practice" May 7-9, 1979, at the Holiday Inn - Rivermont in Memphis. The course is approved for 20 Cognate Hours ACOG, 25 prescribed hours AAFP, and 25 Category I Physician's Recognition Award AMA. For further information, contact the Division of Continuing Education at the University of Tennessee, 800 Madison Avenue, Memphis 38163.

* * * *

The University of Texas System Cancer Center, M. D. Anderson Hospital and Tumor Institute, will present the Fourth Annual Urologic Oncology Seminar July 12-14, 1979, at the Shamrock Hilton Hotel in Houston. The program meets criteria for 18 hours Category I credit for AMA Physician's Recognition Award. For additional information, write Department of Urology

at M. D. Anderson Hospital, 6723 Bertner, Houston 77030.

* * * *

The 1979 Annual Meeting of the Mid-Central

States Orthopaedic Society will be held at the Broadmoor in Colorado Springs, Colorado, April 26-29. Dr. Peter Irwin of Fort Smith is president-elect of the Society.



O B I T U A R Y

Dr. Miles F. Kelly

Dr. Miles F. Kelly of Sheridan died February 3, 1979. He was a retired family practitioner.

Dr. Kelly was born March 6, 1906, in Carthage, Arkansas. He attended the University of Arkansas and received his M.D. degree from the University of Arkansas School of Medicine in 1932. He served four years with the United States Army during World War II and two years with the United States Public Health Service. Dr. Kelly had served at one time as medical director of the North Little Rock City Health Department. He served twenty years with the State Hospital at Benton.

Dr. Kelly was a member of the First Baptist Church of Sheridan. He was a member of the medical association on the county, state and national level and was a member of the American Psychiatric Association.

Dr. Kelly is survived by a son, William P. Kelly of Sheridan, and two daughters, Mrs. Mary Taylor of Little Rock and Dr. Betty A. Kelly of Reno, Nevada.

Dr. Charles McD. Smith

Dr. Charles McD. Smith of Paris died February 8, 1979, of injuries received in an automobile accident.

Dr. Smith was born March 16, 1905. He was graduated from Tulane University School of Medicine in 1927. He had practiced medicine in Paris since 1929 with his brother, Dr. James Smith.

Dr. Smith had been active in his county medical society over the years. He was a member of the Arkansas Medical Society and the American Medical Association.

Dr. Martin F. Heidgen

Dr. Martin F. Heidgen died January 22, 1979,

in Sun City, Arkansas. Dr. Heidgen had resided in Little Rock for the past several years.

Dr. Heidgen was born in Milwaukee, Wisconsin, on January 3, 1905. He attended Marquette University and the Chicago Medical School, receiving his medical degree in 1932. He was administrator of Memorial Hospital at Elmhurst, Illinois, from 1932 to 1966, and was administrator of the Tucson, Arizona, Medical Center and Hospital. Dr. Heidgen had served four years in the Army Medical Corps.

Dr. Heidgen was owner and director of St. Mary's Hospital in Russellville from 1951 until 1972.

Dr. Heidgen held membership in the American College of Hospital Administrators, the American Hospital Association, Veterans of Foreign Wars, the Retired Officers Association of the United States, Phi Chi, Alpha Gamma Phi, Theta Mu Epsilon and the Rotary Club. He had served on the Board of Directors of Arkansas Blue Cross-Blue Shield and Arizona Blue Cross. He was on the editorial advisory board of Hospital Management magazine.

Dr. Heidgen is survived by his wife, Mrs. Mary L. Hinterthuer Heidgen, two sons and two daughters.

Dr. H. L. Boyer

Dr. H. L. Boyer of Lincoln died June 12, 1978. He had been confined to the geriatric unit of the City Hospital in Fayetteville for the past several years.

Dr. Boyer was born on November 13, 1886, in Harmony, Arkansas. He attended Johnson County Public School and the University of Arkansas, receiving a degree from the Medical Department in 1911. He practiced in Hartman from 1911 until 1929, in Fort Towson, Oklahoma, from 1929 to 1946, and in Lincoln from 1946 until his retirement in 1970. Dr. Boyer was the last surviving member of his medical school class of 1911.

Survivors include a son, Dr. Harold L. Boyer, of Las Vegas, Nevada.



NEW MEMBERS

Dr. Allen S. McGaughey

A new member of the Baxter County Medical Society, Dr. McGaughey is a native of Hickory Ridge, Arkansas. He attended the University of Arkansas and the University of Colorado for his pre-medical education.

Following graduation from the University of Arkansas School of Medicine in 1973, Dr. McGaughey interned at the University of Utah. He also completed a residency in Ophthalmology at the University of Utah.

Dr. McGaughey is board certified in Ophthalmology and is a member of the Arkansas Ophthalmological Society. He practices Ophthalmology at 613 South Street in Mountain Home.

Dr. Solomon Cutcher

The Ashley County Medical Society has added Dr. Solomon Cutcher to its membership roll.

Dr. Cutcher retired from the United States Air Force in 1957. In 1962, he was graduated from the University of Mississippi School of Medicine. His internship was at the University Hospital in Jackson, Mississippi. Dr. Cutcher received residency training in Puerto Rico.

After thirteen years of practice in Tucson, Arizona, Dr. Cutcher came to Arkansas in 1978. He is a family physician in practice at the Portland Health Care Center in Portland.

Dr. Barry M. Green

A new member of the Miller County Medical Society, Dr. Green is a native of Kansas and attended the University of Kansas at Lawrence from 1951 to 1953. He then attended Northeast Missouri State College at Kirksville for two years. In 1959, Dr. Green was graduated from Baylor University College of Medicine in Houston. He interned and had residency training at the University Medical Center in Jackson, Mississippi.

From 1960 to 1963, he served as General Medical Officer with the United States Navy.

Dr. Green has practiced in Texarkana since 1967. He was associated with Collom and Carney Clinic in that city from 1967 to 1976. Since 1976, he has been with the Bone and Joint Clinic as an Orthopaedic Surgeon.

Dr. Green is board certified and is a member of the American Orthopaedic Society. He is also a Fellow of the American College of Surgeons and a member of the Western Orthopedic Association.

Dr. Green's office address is 1423 Main, Texarkana, Texas.

* * * *

The Benton County Medical Society has recently added four new members to its roll:

Dr. Gary A. Neaville

Dr. Neaville is a native of Hope. He received a B.A. degree from Hendrix College in 1971. His M.D. degree was received from the University of Arkansas College of Medicine in 1975. Dr. Neaville was at St. John's Mercy Medical Center in St. Louis for internship and residency training.

Dr. Neaville is a member of the American Academy of Family Physicians and has taken the Family Practice board examination. He is in Family Practice at 1040 West Walnut, Rogers.

Dr. Mario E. Costaldi

A native of Berne, Switzerland, Dr. Costaldi attended the University of Berne and the University of Geneva. His M.D. degree was received from the University of Lausanne in 1967. Dr. Costaldi served an internship in the Tucson Hospital Medical Education Program. He was on active duty with the United States Navy from 1969 to 1973. Dr. Costaldi practiced in Huntsville for one year.

Dr. Costaldi practices Surgery at 1040 West Walnut in Rogers. He is board certified in surgery.

Dr. Robert E. Holder

Dr. Holder was born in Memphis. He attended Arkansas State University in Jonesboro and received a Bachelor of Science degree in 1971. Dr. Holder was graduated from the University of Arkansas College of Medicine in 1975.

Dr. Holder completed a Family Practice residency at the University of Arkansas for Medical

NEW MEMBERS

Sciences in 1978. In July, 1978, he located in Bentonville for Family Practice. He is a member of the American Academy of Family Physicians and has taken the examination for the American Board of Family Practice.

Dr. Holder is with Bentonville Medical Associates, P.A., at 306 Northeast Blake Street in Bentonville.

Dr. William Tex Stone

Dr. Stone is a native of Oklahoma. He received a Bachelor of Science degree from Oklahoma A & M College in 1950. In 1954, he received his medical degree from the University of Oklahoma School of Medicine.

Dr. Stone served with the United States Navy from 1943 until 1946. He was a Pharmacist's Mate.

Following an internship at Saint Anthony's Hospital in Oklahoma City, Dr. Stone practiced in Purcell, Oklahoma, for 19 years. He practiced in Frederick, Oklahoma, for four years. He has served as an Associate Preceptor with the University of Oklahoma School of Medicine.

Dr. Stone is in general practice at 1219 West Walnut in Rogers.

* * * *

Three physicians have been added to the membership roll of the Sebastian County Medical Society:

Dr. Ronald A. Bordeaux

Dr. Bordeaux was born in Alton, Illinois. His pre-medical education was at Benedictine College at Atchison, Kansas. His M.D. degree was received from Loyola-Stritch School of Medicine, Maywood, Illinois, in 1973. His internship and residency training were at the University of Missouri Medical Center in Columbia.

Dr. Bordeaux entered private practice with Holt-Krock Clinic in July 1978. He specializes in Internal Medicine and Gastroenterology. He is board certified in Internal Medicine, a member of the American Gastroenterology Association, and a member of the American College of Physicians.

Dr. Bordeaux's office address is 1500 Dodson Avenue, Fort Smith.

Dr. Raymond Cole Goodman, Jr.

Dr. Goodman is a native of Fort Smith; he is the son of a Fort Smith physician. Dr. Goodman

received a B.A. degree from the University of Arkansas in 1969 and his M.D. degree from the University of Arkansas School of Medicine in 1973.

Dr. Goodman had a straight surgery internship at Kansas City General Hospital, followed by three years in General Surgery residency and two years in Plastic and Reconstructive Surgery residency.

He served in the United States Army Reserve from May 1969 until October 1972.

Dr. Goodman is associated with Holt-Krock Clinic, 1500 Dodson, Fort Smith, in Plastic and Reconstructive Surgery.

Dr. David R. Nichols

Dr. Nichols was born in Milwaukee and attended the University of Wisconsin. He received a B.A. degree in 1969 and M.D. degree in 1973.

Dr. Nichols' internship and residency training were at the University of Missouri in Columbia. He also had a Fellowship at the University of Wisconsin.

Dr. Nichols specializes in Pulmonary Disease and Internal Medicine at Holt-Krock Clinic, 1500 Dodson.



ANSWER—Electrocardiogram of the Month

DISCUSSION: The atrial rate is 110 per minute and the ventricular rate is 36 per minute and there are three P-waves for each QRS complex. The third P-wave is hard to see, but is most evident deforming the T-wave in lead II and V1. Each QRS complex appears to be preceded by a conducted P-wave. Additionally, left bundle branch block is present thus, the ECG shows atrial tachycardia with 3:1 AV block and LBBB. The clinical setting is proper for cardiac toxicity secondary to some member of the digitalis-like family of drugs. Both pacemaker therapy and DC countershock may be hazardous in the face of digitalis intoxication and administration of potassium with high grade AV block may accentuate impaired conduction. Thus, in this setting, choice 4 would constitute the best therapy.

CONVENTION SECTION

Program For Annual Meeting

April 22-25, 1979

Little Rock Convention Center

Camelot Inn

Arkansas Medical Society

CONVENTION OFFICIALS

CHAIRMAN: Ken Lilly, M.D., Fort Smith

PROGRAM COMMITTEE:

Gilbert S. Campbell, M.D., Little Rock

W. P. Phillips, M.D., Fort Smith

R. W. Ross, M.D., Fort Smith

James A. Wellons, M.D., Little Rock

George H. Collier, Jr., M.D., Paragould

Charles A. Taylor, M.D., Batesville

Thomas A. Bruce, M.D., Little Rock

Neil H. Sims, M.D., Little Rock

John H. Delamore, M.D., Fordyce

DISTRICT HOSTS: SECOND COUNCILOR DISTRICT

Paul Gray, M.D., Batesville

John E. Bell, M.D., Searcy

SCIENTIFIC EXHIBITS CHAIRMAN: J. Larry Lawson, M.D., Paragould

MEMORIAL SERVICE CO-CHAIRMEN: Paul Gray, M.D., Batesville

John E. Bell, M.D., Searcy

CONTINUING MEDICAL EDUCATION CREDIT

As an organization accredited for continuing medical education, the Arkansas Medical Society Committee on Scientific Programs certifies that this continuing medical education activity meets the criteria for hour-for-hour credit in Category I of the Physician's Recognition Award of the American Medical Association.

General Information

REGISTRATION

The registration desk will be located and open for registration as follows:

Sunday,	April 22	Mezzanine of the Camelot Inn	8:00 a.m. to 5:00 p.m.
Monday,	April 23	Galerie II, Convention Center	8:00 a.m. to 5:00 p.m.
Tuesday,	April 24	Galerie II, Convention Center	8:00 a.m. to 5:00 p.m.
Wednesday,	April 25	Mezzanine of the Camelot Inn	8:00 a.m. to 12:00 Noon

Registration cards and badges will be prepared in advance for the officers of the Arkansas Medical Society and for the county society delegates. Delegates are requested to present credentials in proper form when registering.

All members and visitors are requested to register, as admission to all sessions will be by badge only. Bring your 1979 membership card to facilitate registration.

There will be a \$5.00 registration fee for non-member physicians.

Tickets for the Tuesday night banquet may be purchased at the registration desk.

TELEPHONE SERVICE

As a convenience to physicians in attendance at the meeting, arrangements have been made for telephone service at the Society convention registration desk. It is suggested that you give the following information to your office personnel so that you may be contacted in case of emergency.

On Sunday and Wednesday, the Society staff may be reached through the Camelot Inn switchboard, 372-4371. Calls should be directed to the Medical Society convention registration desk.

Monday and Tuesday the number for the Society staff will be 375-3742.



Memorial Service

A joint Society-Auxiliary Memorial Service will be held on Sunday, April 22, at 1:00 p.m. in the Camelot Inn.

George F. Wynne, M.D., President of the Society, will preside at the service and read the names of deceased members of the Society. Mrs. Walter Mizell, President of the Auxiliary, will read the names of deceased members of the Auxiliary.

IN MEMORIAM

SOCIETY MEMBERS

Dr. Thomas L. Adair, Bald Knob
Dr. William W. Biggs, Helena
Dr. Ross Bizzell, Little Rock
Dr. Martin E. Blanton, Jonesboro
Dr. H. L. Boyer, Lincoln
Dr. William W. Childs, Little Rock
Dr. Noel W. Cowan, Texarkana
Dr. Harley C. Darnall, Fort Smith
Dr. Joseph H. Downs, Nashville
Dr. L. J. Harrell, Prescott
Dr. M. C. Hawkins, Jr., Searcy
Dr. Martin F. Heidgen, Little Rock

Dr. Paul G. Henley, El Dorado
Dr. Miles F. Kelly Sheridan
Dr. Jerome S. Levy, Little Rock
Dr. Jud B. Martindale, Hope
Dr. William S. Orr, Jr., Little Rock
Dr. J. H. Pinson, Jr., El Dorado
Dr. Friedman Sisco, Springdale
Dr. Charles M. Smith, Paris
Dr. John W. Smith, Little Rock
Dr. John H. Wesson, Nashville
Dr. William M. Woods, Huntington
Dr. James J. Wyllie, Pocahontas

AUXILIARY MEMBERS

Mrs. L. F. Barrier, Little Rock	Mrs. Jean Mayfield, El Dorado
Mrs. Morgan C. Berry, Little Italy	Mrs. John E. Parsons, Jr., Little Rock
Mrs. George Bridges, Paragould	Mrs. T. E. Rhine, Thornton
Mrs. Louis A. Draeger, Danville	Mrs. Allen R. Rozzell, Morrilton
Mrs. George B. Fletcher, Hot Springs	Mrs. Harold Short, Beebe
Mrs. John Harry Hayes, Sr., Little Rock	Mrs. J. Brooks Tate, Texarkana
Mrs. W. C. Hensley, Charleston	Mrs. John K. Walker, Pine Bluff
Mrs. Samuel D. McGill, Camden	Mrs. Earl T. Williams, Conway

COUNCIL RECEPTION

The Council will hold a reception for all members, wives, and guests of the Arkansas Medical Society at 6:30 p.m. on Sunday, April 22, in the Camelot Inn. All members are encouraged to attend and become better acquainted with the officers of the Society.

ARKANSAS STATE BOARD OF HEALTH

The Arkansas State Board of Health will have a luncheon meeting at 12:00 noon on Monday, April 23, in the Camelot Inn.

MONDAY EVENING PARTY

Arkansas Blue Cross-Blue Shield will host a cocktail party for members of the Society and their wives at 6:30 p.m. on Monday, April 23, in the Camelot Inn.

PRAYER BREAKFAST

The Committee on Medicine and Religion will sponsor a Prayer Breakfast at 7:30 a.m. on Tuesday, April 24, for all Society and Auxiliary members and their guests. Dr. Gabe Payne of Hopkinsville, Kentucky, will be the guest speaker. Tickets for the breakfast may be purchased at the Society registration desk.

TUESDAY EVENING FUNCTIONS

A cocktail party beginning at 6:00 p.m. in the Camelot Inn will precede the Inaugural Banquet on Tuesday evening.

The President's Inaugural Banquet will begin at 7:00 p.m. on Tuesday, April 24, in the Camelot Inn. Dr. George F. Wynne, 1978-79 president, will be the master of ceremonies. Dr. A. E. Andrews of Texarkana will be installed as the 104th president of the Society.

PAST PRESIDENTS' BREAKFAST

The traditional breakfast for former presidents of the Arkansas Medical Society will be held at 7:30 a.m. on Wednesday, April 25, in the Camelot Inn.

FIFTY YEAR CLUB BREAKFAST

The Society will host a breakfast for members of the Fifty Year Club at 7:30 a.m. on Wednesday, April 25, in the Camelot Inn. Members of the Fifty Year Club may make reservations for the breakfast at the Society's convention registration desk.

Dr. Curtis W. Jones of Benton is president of the Fifty Year Club and Dr. Eva F. Dodge of Little Rock is secretary.

Scientific Exhibits

J. Larry Lawson, M.D., Chairman of the Scientific Exhibits, has arranged a number of interesting scientific exhibits. Exhibits will be located in an area adjacent to the scientific lectures. All members are encouraged to visit the exhibits as they are an integral part of the scientific program.

The following exhibits will be on display:

"Newer Techniques in Teaching Pathology"

Robin Jones, M.D., Department of Pathology, University of Arkansas for Medical Sciences, Little Rock

"Recent Advances in Diagnosis of Renal Disease"

Albert Kalderon, M.D., Department of Pathology, University of Arkansas for Medical Sciences, Little Rock

"Clinical and Radiographic Evaluation of the Newborn with Imperforate Anus — Determining the Type of Anal Rectal Anomaly Present"

Wilma C. Diner, M.D., Department of Radiology, University of Arkansas for Medical Sciences, Little Rock

"Intravascular Manipulations in the Pediatric Patient"

Phillip Smith, M.D., Department of Radiology, University of Arkansas for Medical Sciences, Little Rock

"Radiologic Features of the Continent Ileostomy"

Wilma C. Diner, M.D., Department of Radiology, University of Arkansas for Medical Sciences, Little Rock

"Rhinoplasty"

James F. Kyser, M.D., and Joseph B. Turbeville, Ph.D., Little Rock

"Speech and Hearing Services"

Peggy Parrott, M.S., C.C.C.A., Arkansas Speech and Hearing Association

"Breast Reconstruction"

James G. Stuckey, M.D., Little Rock

"Breast Cancer"

Jacob Amir, M.D., Little Rock

"Fetal Alcohol Syndrome, A Preventable Form of Mental Retardation"

Florence Char, M.D., Department of Pediatrics, University of Arkansas for Medical Sciences, Little Rock

"Cosmetic Surgery in an Outpatient Surgery Center"

Ellery Gay, M.D., Little Rock

"Outpatient Surgery Center: Improving Delivery of Otolaryngological Surgical Care"

H. A. Ted Bailey, M.D., Little Rock

"Evaluation of the Acute Knee Injury"

TCSN Orthopaedic Clinic, P.A., Little Rock

"Treatment of Diabetic Retinopathy"

K. W. Cosgrove, M.D., Little Rock

"Arthritis Foundation Information for Physician and His Patient"

Basil Smith, Little Rock

"Current Treatment of Retinal Holes and Retinal Detachment"

Drs. T. David I. Wilkes, R. Sloan Wilson and James H. Landers, Little Rock

"Area Health Education Centers"

Paul Woodworth, Ph.D., University of Arkansas College of Medicine, Little Rock

"The Collaborative Teaching of Human Sexuality"

Domesna Wrenshaw, M.D., Department of Psychiatry, Loyola University, Maywood, Illinois

"Rheumatoid Arthritis — A Systemic Disease"

Donald G. Leonard, M.D., Little Rock

"Occupational Therapy in Arkansas"

Susan P. Smith, O.T.R., Arkansas Occupational Therapy Association

"The Role of Lip Adhesion in Cleft Lip Repair"

Robert W. Seibert, M.D., Department of Otolaryngology and Maxillofacial Surgery, University of Arkansas Medical Center

"Newer Aspects of Pulmonary Function Testing"

Drs. James S. Adamson, Jerry M. Herron and Nancy F. Rector, Little Rock

"Carcinoma of the Larynx"

James Suen, M.D., Department of Otolaryngology, University of Arkansas College of Medicine, Little Rock

"Gallbladder Ultra Sound"

Donald I. Purcell, M.D.; Johnny Stanford, R.T.; and Christie Foust, L.P.N., Paragould



Business Sessions

MEETINGS OF THE COUNCIL

The Council of the Arkansas Medical Society will meet as follows:

Sunday, April 22	10:00 a.m.
Monday, April 23	7:30 a.m.
Tuesday, April 24	7:00 a.m.
Wednesday, April 25	8:30 a.m.
Wednesday, April 25	Immediately following adjournment of the House of Delegates (brief re-organizational meeting and group photograph of new officers)

The voting members of the Council are: the councilors, the president, the first vice president, president-elect, secretary and treasurer. The speaker, vice speaker, and past presidents are members ex-officio without vote.

HOUSE OF DELEGATES

The opening session of the House of Delegates of the Arkansas Medical Society will begin at 1:30 p.m. on Sunday, April 22, in the Camelot Inn. Speaker of the House of Delegates, Amail Chudy, M.D., will preside.

All items of business to be considered by the House must either be printed in the March issue of the Journal or submitted to the headquarters office in writing twenty days prior to the meeting. Any new business proposed during the sessions of the House must have two-thirds vote of attending delegates for introduction.

Items of business will be referred by the Speaker of the House of Delegates to one of three reference committees. Open hearings on those items of business

will be held by the reference committees following adjournment of the House. All members of the Society are welcome to attend the meetings of the reference committees and to express their views on the various reports, resolutions, etc.

A G E N D A

FIRST MEETING, HOUSE OF DELEGATES

1:30 p.m., Sunday, April 22

1. Call to Order
2. Roll Call of Delegates
3. Report of Credentials Committee
4. Introduction of Guests:
Mrs. Ben Johnson, Jr., President-elect of the American Medical Association Auxiliary
Mrs. Walter Mizell, President, Arkansas Medical Society Auxiliary
Mrs. Frank E. Morgan, President-elect, Arkansas Medical Society Auxiliary
5. Address by Dr. Hoyt Gardner, Louisville, Kentucky, President-elect of the American Medical Association
6. Address by Dr. George F. Wynne, President, Arkansas Medical Society
7. Adoption of minutes of the 102nd Annual Session as published in the June 1978 issue of the Journal of the Arkansas Medical Society
8. Adoption of minutes of the special session of the House held November 19, 1978, as published in the January 1979 issue of the Journal of the Arkansas Medical Society
9. Report from the Chairman of the Council, John P. Burge, M.D.
10. Report of Committees
(Reports published in the March issue of the Journal may be amended by committee chairmen. All reports will be referred to the reference committees.)
Report of the Committee on Medical Legislation, Dr. Elvin Shuffield, chairman
11. Old Business
12. New Business
Dr. A. S. Koenig, Jr., Chairman of the Constitutional Revisions Committee, will present a proposed amendment to the Constitution for first reading. (See report of committee for wording of the proposed amendment.)
13. Announcements of Vacancies on State Boards
14. Selection of Society Nominating Committee for 1979-80 Society Officers (Councilor district meetings are held on the floor of the House for selection of representatives from each district for the Nominating Committee.)
15. Adjournment

A G E N D A

FINAL MEETING, HOUSE OF DELEGATES

10:00 a.m., Wednesday, April 25

1. Call to Order
2. Report of the Nominating Committee
3. Elections

Society Officers:

President-elect
First Vice President
Second Vice President
Third Vice President
Treasurer
Secretary

Speaker of the House of Delegates

Vice Speaker of the House of Delegates

Councilors (one from each of the ten councilor districts)

Councilors whose terms expire are:

1. Merrill J. Osborne, M.D., Blytheville
2. Paul Gray, M.D., Batesville
3. Herd E. Stone, Jr., M.D., Holly Grove
4. Raymond Irwin, M.D., Pine Bluff
5. George Warren, M.D., Smackover
6. Donald L. Duncan, M.D., Texarkana
7. Curtis B. Clark, M.D., Sheridan
8. W. Ray Jouett, M.D., Little Rock
9. Morriss M. Henry, M.D., Fayetteville
10. Charles F. Wilkins, M.D., Russellville

American Medical Association Delegate and Alternate:

Delegate to the American Medical Association (term of Purcell Smith, M.D., Little Rock, expires December 31, 1979)

Alternate Delegate to the American Medical Association (term of T. E. Townsend, M.D., Pine Bluff, expires December 31, 1979)

Vacancies on State Boards:

State Board of Health:

Term of Ben Saltzman, M.D., Third Congressional District, expires December 31, 1979

Term of John P. Burge, M.D., Sixth Congressional District, expires December 31, 1979

Term of Warren Murry, M.D., Fayetteville, Member-at-Large, expires December 31, 1979

4. Vote on location of the headquarters office

5. Reports of Reference Committees:

Committee No. 1: Richard N. Pearson, M.D., Chairman

Committee No. 2: Joe Lyford, M.D., Chairman

Committee No. 3: Richard O. Martin, M.D., Chairman

6. Supplemental Report of the Council: John P. Burge, M.D., Chairman

7. New Business

8. Adjournment

REFERENCE COMMITTEES

Reference Committees are appointed by the Speaker of the House of Delegates to consider the various reports and resolutions. Reports published in the March issue of the Journal, as well as any reports and resolutions presented at the first meeting of the House on April 22, will be referred by the Speaker to the reference committees. The committees will hold open hearings at 3:30 p.m. on Sunday, April 22, to give all members an opportunity to present their views on the various items of business. Following the open hearings, the reference committees will hold executive sessions for the purpose of preparing recommendations and reports for the House of Delegates. Reports of the Reference Committees will be acted upon by the House at the Wednesday session.

Members of the Reference Committees are:

Reference Committee Number 1:

Richard N. Pearson, M.D., Rogers, Chairman

Charles Kleeper, M.D., Harrison

Paul Cornell, M.D., Little Rock

Sam Landrum, M.D., Fort Smith
Medical Student Observer: Mr. Lynn Davis

Reference Committee Number 2:

Joe Lyford, M.D., Russellville, Chairman
Eugene Joyce, M.D., Texarkana
Thomas Jansen, M.D., Little Rock
A. C. Bradford, M.D., Fort Smith
Medical Student Observer: Mr. James English

Reference Committee Number 3:

Richard O. Martin, M.D., Paragould, Chairman
Carl Williams, M.D., Fort Smith
E. K. Clardy, M.D., Hot Springs
Frank Westerfield, M.D., Little Rock
Medical Student Observer: Mr. Thomas Koonce

STATE BOARD VACANCIES

Arkansas State Board of Health

Vacancies occur in the Third and Sixth Congressional Districts as well as in the Member-at-Large position on the Arkansas State Board of Health.

Members from the Third and Sixth Congressional Districts are urged to meet immediately following adjournment of the House of Delegates on Sunday to vote for nominees. Nominations should be reported to the convention registration desk (three required for each position). Members presently serving and counties in the districts are:

Third District —

Ben N. Saltzman, M.D., Mountain Home, term expires December 31, 1979.

Counties in District: Baxter, Benton, Boone, Carroll, Crawford, Franklin, Johnson, Logan, Madison, Marion, Newton, Scott, Searcy, Sebastian, Van Buren, and Washington.

Sixth District —

John P. Burge, M.D., Lake Village, term expires December 31, 1979.

Counties in District: Arkansas, Chicot, Cleveland, Dallas, Desha, Drew, Garland, Grant, Hot Spring, Jefferson, Lincoln, Lonoke, and Saline.

Members are urged to present their nominations for the member-at-large position to their district representative on the Society Nominating Committee.

ARKANSAS FOUNDATION FOR MEDICAL CARE

The Arkansas Foundation for Medical Care will meet at 9:15 a.m. on Wednesday, April 25, in the Camelot Inn. The meeting is open to all physicians but only members of the Foundation may vote on items of business.



Scientific Program

GENERAL SESSION

Program Theme:

"Let's Hear it from the Specialties"

Monday Morning, April 23

Presiding: Richard N. Pearson, M.D., Rogers, First Vice President

- 8:45-10:45 "The Hide In Seeking — Dermatology Update"
G. Thomas Jansen, M.D., Professor and Chairman, Department of Dermatology, University of Arkansas College of Medicine, Little Rock
- 10:45-11:00 Intermission
- 11:00-11:45 "What's New and Useful in Urology"
Norman E. Peterson, M.D., Assistant Director, Department of Surgery and Division Chief, Urology, Denver General Hospital, Denver, Colorado

Monday Afternoon, April 23

Presiding: Joe Lyford, M.D., Russellville, Second Vice President

- 1:30- 2:15 "Drug Allergy"
Kenneth P. Mathews, Professor of Internal Medicine, University of Michigan Medical School, Ann Arbor, Michigan
- 2:15- 3:30 "Facial Reanimation"
B. R. Alford, M.D., Professor and Chairman, Department of Otorhinolaryngology and Communicative Sciences, Baylor College of Medicine, Houston, Texas
- 3:30- 4:15 (Subject to be announced)
W. Bud Dickson, M.D., Orthopaedic Surgeon, Little Rock

Tuesday Morning, April 24

Presiding: Richard O. Martin, M.D., Paragould, Third Vice President

- 9:00- 9:45 "Knee-Joint Arthroscopy: Diagnosis and Treatment"
James Mulhollan, M.D., Orthopaedic Surgeon, Little Rock
- 9:45-10:30 "Hyperirritability of Tissues is a Clinical Fact"
J. Blair Pace, M.D., Family Practice Residency Program, Santa Ana-Tustin Community Hospital, Santa Ana, California
- 10:30-11:00 Intermission
- 11:00-11:45 (Subject to be announced)
Thomas H. Holmes, M.D., Department of Psychiatry, University of Washington, Seattle



Group and Specialty Meetings

Friday, April 20

The *Arkansas Society of Anesthesiologists* has scheduled a meeting for Friday, April 20th, at the Sam Peck Hotel, Little Rock, beginning at 6:30 p.m. Guest speaker will be Dr. Stephen Slogoff.

Monday, April 23

The *Alan Cazort Allergy Society of Arkansas* will hold a meeting on Monday, April 23, beginning with cocktails at 6:30 p.m. and dinner at 7:30 p.m., at Coy's Steak House, Little Rock.

Dr. Kenneth Mathews of the University of Michigan Medical School in Ann Arbor will be guest speaker.

Tuesday, April 24

The specialty groups listed below will all hold meetings on Tuesday, April 24, in the Camelot Inn-Convention Center complex.

The *Arkansas Academy of Family Physicians* will hold a luncheon meeting beginning at 12:00 noon on Tuesday, April 24, in the Camelot Inn.

Dr. J. Blair Pace of the Family Practice Residency Program, Santa Ana-Tustin Community Hospital, will present a program on the following subjects:

- I. Philosophy and Pharmacology of Paine
- II. Headache — Specific Application

Following the scientific program, there will be a meeting of the Board of Directors of the Academy.

The section meeting qualifies for two hours of prescribed credit.

The *Neurosurgery Section*, Arkansas Medical Society, will meet at 12:00 noon on Tuesday, April 24, for a luncheon and business meeting.

The *Arkansas Orthopaedic Society* will hold a luncheon meeting on Tuesday, April 24, beginning at 12:15 p.m. in the Convention Center. The Society's annual business meeting will be held in connection with the luncheon.

The *Ophthalmology Section*, Arkansas Medical Society, has scheduled the following meeting for Tuesday, April 24:

- 9:00- 9:40 a.m. Harold Beasley, M.D. — "Ptosis"
- 9:45-10:10 a.m. Harold Beasley, M.D. — "Indications for Cataract Surgery"
- 10:10-10:30 a.m. Coffee Break
- 10:30-11:20 a.m. F. Hampton Roy, M.D.
Ken Augsburg, M.D.
Richard McDouglas, M.D.
"Prevention of Secondary Membranes,
an Animal and Human Study"
- 11:20-12:15 p.m. Business Meeting
- 12:15 p.m. Luncheon

The *Otolaryngology Section*, Arkansas Medical Society, will meet at 11:00 a.m. on Tuesday, April 24, for a lecture prior to a combined luncheon and busi-

ness meeting. Dr. B. R. Alford, professor and chairman of the Department of Otolaryngology at Baylor University College of Medicine, will speak from 1:00 until 3:00 p.m.

The *Arkansas Society of Pathologists* will meet on Tuesday afternoon, April 24, at 12:30 p.m. for a business luncheon meeting.

The *Arkansas Chapter of the American Academy of Pediatrics* will hold a meeting on Tuesday, April 24, beginning at 12:00 noon. The Chapter's meeting will feature the International Year of the Child — American Academy of Pediatrics Speak Up for Children program.

The *Arkansas Chapter, American College of Surgeons* has scheduled a luncheon meeting at 12:00 noon on Tuesday, April 24. A program entitled "Cost Containment in Surgical Practice" will be presented.

The *Arkansas Urological Society* will meet on Tuesday, April 24, beginning at 12:30 p.m. Dr. Norman E. Peterson of the Department of Surgery at Denver General Hospital, Denver, Colorado, will be the guest speaker.

The *Arkansas Society of Internal Medicine* has scheduled a meeting for Tuesday, April 24. A business luncheon will be held from 12:15 p.m. until 1:00 p.m. The following program will begin at 1:00 p.m.:

Program theme:

"Red, White and Blue — Face Off for Health Care Reimbursement"

1:00 p.m. Dr. William R. Felts, Washington, D. C., Past President of the American Society of Internal Medicine

"Federal Plans for Compulsory Health Insurance — Past, Present and Future"

1:30 p.m. Dr. George Mitchell, President and Chief Executive Officer, Arkansas Blue Cross-Blue Shield

"How Will Private Insurance Companies Survive with Federal Encroachment"

2:00 p.m. Panel Discussion

Panelists: Dr. Felts

Dr. Mitchell

Dr. Jack Blackshear, President, Arkansas Society of Internal Medicine

The *Arkansas Psychiatric Society* will meet on Tuesday, April 24, from 2:00-4:00 p.m. A presentation on "Psychosomatic Medical Problems" will be given by guest speaker Dr. Thomas H. Holmes of the Department of Psychiatry at the University of Washington, Seattle.



Arkansas Medical Society Auxiliary

The 55th Annual Session of the Arkansas Medical Society Auxiliary will be held April 22-24, 1979, in the Camelot Inn, Little Rock.

The following is an outline of the tentative convention schedule:

Registration hours, Mezzanine, Camelot Inn

Sunday 1:00 p.m. to 4:00 p.m.

Monday 8:00 a.m. to 12:00 noon

2:00 p.m. to 4:00 p.m.

Tuesday 8:00 a.m. to 10:00 a.m.

AMA-ERF

Booth will be open near the registration desk.

SUNDAY, APRIL 22

- 1:00 p.m. Joint Memorial Service with the Arkansas Medical Society
- 2:30 p.m. Pre-Convention State Board Meeting, President's Suite
Joint meeting with president-elect for state officers, state committee chairmen, county presidents, county presidents-elect, and all NEW State Board members
- 6:30 p.m. Council reception for all members of the Medical Society and Auxiliary

MONDAY, APRIL 23

- 8:30 a.m. Past Presidents' Breakfast
- 9:30 a.m. Opening General Session, Camelot Inn
Mrs. Walter Mizell, presiding
- 12:30 p.m. Luncheon and Hospitality, Camelot Inn
Guest Speaker: Mrs. Ben Johnson, Jr., President-elect, American Medical Association
- 6:30 p.m. Cocktail Party hosted by Arkansas Blue Cross-Blue Shield

TUESDAY, APRIL 24

- 7:30 a.m. Prayer Breakfast for members of the Arkansas Medical Society and Auxiliary
- 9:30 a.m. Second General Session
- 12:30 p.m. Luncheon, Little Rock Country Club (bus transportation from Camelot will be available)
Musical Program
Guest Speaker: Mrs. Baxter S. Troutman, President, Woman's Auxiliary to the Southern Medical Association
Awards: Doctor's Day, AMA-ERF, Membership, Project Bank
Installation of Officers
- 6:00 p.m. Cocktail Party, Camelot Inn
- 7:00 p.m. Arkansas Medical Society Inaugural Banquet

Arkansas Medical Society Auxiliary President: Mrs. Walter Mizell, Benton

Convention Chairman: Mrs. Curry (Jean) Bradburn

Convention Co-Chairman: Mrs. David (Jane) Barclay

Technical Exhibits

The business firms who purchase exhibit space at our Annual Session contribute a great deal to the financing as well as to the educational aspects of the meeting. The number of visits to the technical exhibits is the only criterion by which these companies can judge the value they receive from the investment in booth rental, displays and employees' time. You will be rewarded for the time you spend visiting the exhibits. Following are descriptions of displays to be featured.

WILLIAM P. POYTHRESS & COMPANY, INC.

Wm. P. Poythress & Company, Inc., manufacturers of ethical pharmaceuticals for one hundred twenty-two years, cordially invites you to visit our exhibit where our representative, Mr. T. L. Brubaker, will be glad to discuss any Poythress product.

SANDOZ PHARMACEUTICALS

Sandoz Pharmaceuticals invites you to stop by our exhibit where our representatives will be pleased to provide information on our products or on educational materials that we have available.

MERCK SHARP & DOHME

Merck Sharp & Dohme cordially invites you to visit their exhibit at Booth #3 featuring several products from their extensive lines of pharmaceuticals. Representatives in attendance will be pleased to answer any question you may have. Inquiries about our professional, informational, and educational services are welcomed.

PULASKI BANK AND TRUST COMPANY

Our representative will provide information on bank services for physicians offered through the Medical Division of Pulaski Bank & Trust Company.

DICTAPHONE CORPORATION

Dictaphone Corporation will display its most modern up-to-date Micro Processing Dictating Equipment as well as Mini-word Processing systems. We will have standard size cassettes, micro cassettes and mini cassettes for sale. These cassettes fit all of Dictaphone and competitive type equipment. We will also feature portable equipment and other items including the Ansafone telephone answering equipment.

ORTHO PHARMACEUTICAL CORPORATION

Ortho Pharmaceutical Corporation is proud to present the most complete line of medically accepted products for the control of conception and the treatment of vaginitis. In addition, Ortho also is pleased to present products for the treatment of common parasitic conditions and for the control of diarrhea.

ENCYCLOPAEDIA BRITANNICA

As part of our exhibit we will have on display the 30 Volume Encyclopaedia Britannica 3, Great Books of the Western World, and other related publications. These publications are available to the members and guests at the exhibit offer. Stop and visit with us in Booth #7.

HEALTH MANAGEMENT ASSOCIATES, INC.

Health Management Associates is presenting an eco-

nomically priced microcomputer uniquely programmed for the small professional office. This system is specially designed for rural practitioners who wish to streamline their practices, facilitate billing and improve their third party reimbursement rates.

DODSON INSURANCE GROUP

Our representative, Ralph Marionneaux, will have information on the Savings Plan for Workers' Compensation Insurance approved by the Arkansas Medical Society. This is a proven service to reduce the cost of this insurance when claim costs are controlled through safety on the job. The latest return was 37.5% for insured physicians in Arkansas. Policyholders get standard, individual policies written at State-approved rates.

REED AND CARNRICK PHARMACEUTICALS

Reed & Carnrick, serving the medical profession for over 100 years, produces a line of well-established specialty items which are leaders in the fields of gastroenterology, gynecology, proctology and dermatology.

SMITH, KLINE & FRENCH LABORATORIES

Smith, Kline & French Laboratories will feature "Tagamet" (brand of cimetidine). "Tagamet" significantly reduces gastric acid secretion and is indicated for short-term (up to 8 weeks) treatment of duodenal ulcer, and for the treatment of pathological hypersecretory conditions.

JFK ELECTRONICS

We plan to exhibit the PERTEC COMPUTER "Patient Accounts Management System" (PAMS) which was designed by an M.D. for medical practitioners. This system handles account bookkeeping functions for over 3000 FAMILY accounts, including active accounts list, preparing statements, automatic over-due notices, recall letters, daily log, audit trail, EOM/EOY analysis of services, aged accounts balance, and more. All for scarcely more than the price of your new car.

SCHERING CORPORATION

Schering will feature Garamycin Injectable, an antibiotic, and Etrafon, a tranquilizer for anxiety and depression. Come by Booth #13 where our representatives will be on hand to answer any questions you might have about our products.

ED WILLIS PHOTOGRAPHY

Representatives of Ed Willis Photography will be on hand to visit with members regarding portraiture. Mr. Willis specializes in environmental portraiture.

ST. VINCENT INFIRMARY

St. Vincent Infirmary representatives will be on hand to discuss expanded outpatient services capability. St. Vincent offers diagnostic and therapeutic services as a back-up to a physician's practice. St. Vincent feels this is broad support for a doctor's practice and is a real cost-containment effort in providing services on an out-patient basis.

BRISTOL LABORATORIES

You are cordially invited to visit Bristol Laboratories' exhibit. Our representatives at the booth welcome the

opportunity to answer your questions concerning the Bristol line of products featuring: Amikin® (amikacin sulfate); Bristoject® (Bristol Emergency Medication System); Cefadyl® (sterile cephapirin sodium); Kantrex® Injection (kanamycin sulfate injection); Naldecon® (antihistamine decongestant); Polycillin® (ampicillin); Polymox® (amoxicillin); Prostaphlin® (oxacillin sodium); Salutensin®/Salutensin-Demi™ (hydroflumethiazide, reserpine antihypertensive formulation); Stadol® (butorphanol tartrate); Tegopen® (cloxacillin sodium); and Tetrex® (tetracycline phosphate complex).

MEDICAL PLASTICS LABORATORY, INC.

Medical Plastics Laboratory will display authentic anatomical reproductions and patient simulators. MPL Authentic Anatomical Reproductions and Patient Simulators are unsurpassed for teaching and/or learning anatomy. They are life-size and anatomically accurate because they are cast directly from human specimens.

BOOTS PHARMACEUTICALS, INC.

At the 1979 meeting of the Arkansas Medical Society, Boots Pharmaceuticals will be featuring Ru-Vert, P-200, and Ru-Tuss. Representatives will be on hand to answer questions about these or any other of our ethical pharmaceuticals.

NATIONAL MEDICAL RENTALS, INC.

Our representatives will have hospital equipment for the home and respiratory therapy equipment on display in Booth #19.

FIRST VARIABLE LIFE/RETIREMENT SYSTEMS CORPORATION

Specialists in the investment, design, and implementation of Pension and Profit Sharing Plans.

The Investment Accounts managed by First Variable continue to provide consistent above-average investment results. Whether you want a guaranteed rate of return, a High Yield Bond Account, or a Common Stock investment, First Variable has the performance record.

Retirement Systems offers complete actuarial and plan administrative services on a fee-only basis.

Come by our booth and see how you can benefit from our experience.

WILLIAM T. STOVER

The Stover Company will be displaying the latest products in medical and surgical supplies and equipment at the Medical Society meeting in April.

ARKANSAS BLUE CROSS AND BLUE SHIELD, INC.

Our representatives will have health education material on display at the Annual Meeting.

CUMMINGS X-RAY COMPANY

Cummings X-Ray Company invites you to come by Booth #23. On display will be x-ray and physiotherapy equipment and an electrocardiograph.

NORTHWESTERN NATIONAL LIFE INSURANCE COMPANY

Mr. V. Waner Marks, CLU, will be in Booth #24 and will have brochures on the life insurance plan offered to members of the Arkansas Medical Society. Mr. Marks will be happy to answer any questions you might have.

WARREN-TEED LABORATORIES, INC.

Registrants of the Arkansas Medical Society are cordially invited to visit Warren-Teed's exhibit where our representatives will be featuring Kaon-Cl Tabs®, controlled release tablets for potassium supplementation, and Magan® for relief of the signs and symptoms of arthritis. Also available will be our popular laxative, Modane®.

SEARLE LABORATORIES

You are cordially invited to visit the SEARLE booth where our representatives will be happy to answer any questions regarding SEARLE products. Featured will be information on the Cu-7®, OVULEN®, DEMULEN®, EN-OVID®, ALDACTAZIDE®, ALDACTONE®, FLAGYL®, LOMOTIL®, PRO-BANTHINE®, METAMUCIL® and other drugs of interest.

TAB PRODUCTS COMPANY

TAB PRODUCTS is a national company which is the leader in lateral filing systems of all types. We will be highlighting our lateral filing equipment and color coded systems for medical records.

DEPARTMENT OF THE ARMY

The U.S. Army Medical Department representatives will provide information on career opportunities in the Army Medical Department.

WILLIAM H. RORER, INC.

William H. Rorer, Inc. takes pride in exhibiting its fine pharmaceutical products at this convention. Our representatives will gladly discuss MAALOX PLUS, MAALOX, ASCRIPTIN, ASCRIPTIN A/D and our other products with you.

PARKE-DAVIS

You are cordially invited to visit the Parke-Davis booth where Medical Service Representatives will be in attendance to discuss products especially selected to assist you in the practice of your profession.

FAIRVIEW AUDIO-VISUAL COMPANY

Patient education and training through the use of media will be the theme of the Fairview Audio-Visual exhibit. On display will be the latest 35mm slide and video equipment by such manufacturers as Kodak, Singer, Wollensak, Panasonic, Sharp, JVC, and Sony. Also featured will be the newest in home video devices and a special tape recorder by VSC that allows listening at up to two-and-a-half times normal speed without distortion.

RATHER, BEYER & HARPER

Representatives of Rather, Beyer & Harper will have brochures and all information on the Arkansas Medical Society's Group Insurance Plans. The Income Protection Plan, which has been in effect since 1947, is now being issued on a guaranteed renewable basis. We ask that each physician check with us on the prospective changes in his new Overhead Expense Plan. Records will be available so that each physician may review his insurance coverages and what he is eligible to apply for as a member of the Arkansas Medical Society.

BOCK PHARMACAL COMPANY

At the Annual Session, Bock Pharmacal will be displaying POLY-HISTINE-D ELIXIR and POLY-HISTINE-D

CAPSULES. POLY-HISTINE-D is a multiple anti-histamine decongestant.

PFIZER LABORATORIES DIVISION

Pfizer representatives will be at Booth #34 during the Annual Session. They will be happy to discuss any of our products with you or answer any questions you might have. Some of the products featured will be Minipress, Vistoril, Sinequan, Vibramycin and Diabinese.

DEAN WITTER REYNOLDS, INC.

Dean Witter Reynolds, a full service brokerage firm, a member of the New York Stock Exchange, the American Stock Exchange and other major exchanges, with offices worldwide, will make available information for any type of investment for individuals, corporations or trustees.

A. H. ROBINS COMPANY

You are cordially invited to visit the A. H. Robins exhibit and meet our representatives who will welcome the opportunity to discuss products of interest with you.

AIR FORCE HEALTH PROFESSIONAL RECRUITING

Captain Boyd Kleefisch, Air Force Health Professional Recruiting team member, will be available for interviews concerning professional opportunities in the Air Force Medical Corps. He will have a lighted modular display at the booth and literature will be available explaining all the programs.

UAD LABORATORIES, INC.

UAD LABORATORIES, INC., will proudly display products which have been widely accepted in the State of

Arkansas. This year we will feature the following: UAD CREAM: UAD CREAM LOTION — Dermatological use; VERTAB — Vertigo and Dizziness; CEZIN: CEZIN-S — Vitamin and Zinc Therapy; ENDAL TABLETS — Allergies and Decongestant AR-MED.

W. B. SAUNDERS PUBLISHING COMPANY

Saunders will have on display, an up-to-date selection of their medical books, with many new recently published titles. Our representative, Mr. Glenn Wright, will be glad to help with your selection.

PATTERSON MANUFACTURING

The Patterson Manufacturing exhibit will feature a pediatric table which we feel is unique as it enables the clinician to utilize one table from newborn to pre-teens. In addition it has more storage space and is more functional than the traditional pediatric table.

E. F. HUTTON FINANCIAL SERVICES

The E. F. Hutton Financial Services exhibit will provide the attendees with various information and material on investments, tax-shelter, insurance and fringe benefit planning ideas as well as information on the Medical Group Management Association and its insurance programs.

* * * *

The Arkansas Medical Society expresses appreciation to the following companies for educational grants:

A. H. Robins Company

Eli Lilly and Company

Mead Johnson Nutritional Division

Warner-Lambert Company



House of Delegates Business Affairs

Business items printed below are brought to the attention of individual members and the county medical societies. The items reported here represent those received in time for publication in advance of the meeting. All reports will be referred to reference committees. Members are urged to attend the open hearings of the reference committees to express their views. Reference committee hearings are scheduled for 3:30 p.m. on Sunday, April 22.

ANNUAL COMMITTEE REPORTS

Sub-Committee on National Legislation

Richard Pearson, M.D., Chairman

The committee wishes to recognize Dr. William Orr as Chairman of this committee for the contributions made to this committee until the time of his death. The committee met during the winter meeting of the Arkansas Medical

Society in Little Rock on November 19, 1978. Members present at the meeting were Dr. Richard Pearson, Chairman, and Dr. James Kolb. The committee has been inactive in recent years and it was the feeling of those members present that this committee should become an active, important, contributing committee of the Arkansas Medical Society. It was the feeling of the members present that the function of the committee was to act as an intermediary for the dispersal of information between the legislative activities in Washington and the membership of the Arkansas Medical Society as a whole. Dr. Pearson and Dr. Kolb have made plans to visit the Arkansas Legislative delegation in Washington sometime in April or May in order to establish important contact so that they, as a committee, may be kept informed of pending legislation.

The committee members felt that the great untapped resource of the Arkansas Medical Society is the presidents of the county societies. It was felt that any information gathered by the committee should best be distributed to the members of the Society by way of the presidents of each county society.

**Committee on Public Health
(Rural Health)**

Ben N. Saltzman, M.D., Chairman

The Chairman attended the National Conference on Rural Health of the American Medical Association which was held in Denver, Colorado, early in April. The conference was wider in scope than it had ever been in the past. Many continuing education courses for practicing physicians were provided for credit. These were well attended. Many sponsoring organizations, including the American Academy of Family Physicians, played a part in the program providing for an update of what was new on the rural health scene. A heightened interest in rural health problems was apparent. Considerable effort from then on went into the preparation for Arkansas' 10th Rural Health Conference. This was held at the Camelot Inn in Little Rock on August 24, 1978, and included an audience of approximately 600 people from over the State. The Arkansas Cooperative Extension Service and the State Health Department played a significant part in the preparations for the conference. The College of Medicine of the University of Arkansas was also involved in providing speakers and contributed an afternoon at the UAMS Campus to help celebrate the 100th Anniversary of the College of Medicine.

The Chairman participated in a workshop sponsored by the Office of Research in Medical Practice and the Office of Community Medical Affairs, both part of the College of Medicine. The Arkansas Health Department was co-sponsor. This workshop was the result of a grant provided by the Winthrop Rockefeller Foundation and concerned "The Recruitment and Retention of Physicians in Rural Areas."

The Chairman is a member of the Steering Committee for the Rural Health Council for Rural America. He attended a meeting in June for the purpose of developing guidelines for the Council. Later, he talked to the new residents in the Department of Family and Community Medicine in the College of Medicine on his own

program of Rural Medical Development. On August 15th, he once again represented the Arkansas Medical Society Committee on Public and Rural Health at the 4-H O-Rama in Conway, Arkansas. He presented an award to the 4-H winner in Health.

The Chairman serves on an advisory committee for a Rural Health Development Grant from the Department of HEW. He is also involved in a newly developing outpatient clinic program for the College Station area adjoining Little Rock. This provides an opportunity for medical students to gain some exposure to patients who are deprived of health care. He is also involved in providing refresher courses for the Family Practitioners over the State of Arkansas. He cooperates with departments other than Family Practice in an effort to provide outstanding review courses for family physicians for continuing education credit. He serves on the Health Manpower Board representing the Arkansas Medical Society. He continues to serve as a member of the Arkansas State Board of Health.

He has been speaking to civic groups over the State acquainting communities with the mission of the College of Medicine which is to develop primary care physicians who will serve the people of the entire State. He coordinates his activities with those of the Area Health Education Centers located away from the College of Medicine.

The Chairman has also been given a signal honor. He serves as the Chairman of Rotary International's Health, Hunger and Humanity Committee. This is an attempt to provide health care not only in the United States but over the world. Most of the problems over the world are found in rural areas.

The Committee on Public Health met for a period of two hours preceding the winter session of the Arkansas Medical Society on November 19th at the Camelot Inn. In attendance were Dr. William C. Whaley of Warren, Dr. Milton Deneke of West Memphis, Dr. Edgar J. Easley and Dr. Bryant Swindoll, both of Little Rock, and the Chairman. The Committee discussed lack of communication which causes resentment on the part of the practicing physician toward public health nurses who are doing immunizations. It was felt that more person-to-person contact was needed on the part of public health nurses and practicing physicians. The committee believed that centralization of facilities in rural

communities would lead to improved relationships in public health and private practice. Most certainly the patients would benefit. The need to remind practicing physicians of the availability of home health services was emphasized. It is easy to forget that such services are available to home-bound patients. The suggestion was made that the next Rural Health Conference should concern itself with nursing services and home health aides for these people. The committee members were informed that the pharmacy board is active in requesting that the Health Department refrain from dispensing birth control pills, anti-tuberculosis drugs and venereal disease drugs to patients who need them. It was felt that the Medical Society might have to take some action in this respect. There is a considerable need for public health education in the schools, including junior high and high school, concerning problems of sex, drugs, mental retardation and immunization. Physicians can teach subjects of this type without repercussions. It was suggested that there be a joint meeting of school superintendents and physicians to discuss format and materials for this type of program. The committee was informed that education television tapes are available in the Memphis area concerning "Facts of Life," and a column is being written by a Dr. William Rosenberg on rural news called "House Call." The discussion was good and the members of the committee appeared to be in agreement on the subjects discussed.

The Chairman continues to serve the College of Medicine as Director of Rural Medical Development Programs and finds that this committee function dovetails with the job.

Committee on Mental Health
W. Payton Kolb, M.D., Chairman

This committee is studying the problem of the impaired physician. The Chairman attended the AMA Conference on this subject in September 1978. Plans are being made for an organized program for the detection and help of the physician who develops a problem that interferes with his work.

The committee recognizes and compliments the Arkansas State Medical Board for the excellent work it has done in the past in this area. When compared with other states, this Board has an enviable record in getting the physician into a treatment program and back into practice.

This is due to the hard work of the Board, its interest in the patient and the physician, and the non-political structure of the Board.

In studying this problem, it is felt an organized program of the Arkansas Medical Society can be of much help to the physician and the Board. This would involve the provision of services for the physician prior to his or her getting to the point of coming to the attention of the Board and also providing for voluntary services. Such a program, as indicated, is in the planning phase at this time.

This committee has studied the effects of the recent decision from the Federal Court concerning the commitment of patients involuntarily to psychiatric hospitals. The committee recognizes and agrees with the concern that individuals be protected in regard to due process in such actions. At the same time, it is noted that the decision mentioned creates a time-consuming process for the patients and the mental health professionals which will hamper the starting of treatment and be detrimental to the patient. It will also deny adequate treatment to certain persons who could live a happier and more comfortable life if they had adequate treatment.

An Ad Hoc Committee has been set up by the Commissioner of Mental Health to work on this problem. This committee has input from several areas that are involved. Legislation is being prepared to simplify the process in order to help the patient and, at the same time, protect his right to due process.

This is a report of work in progress at this time. No action is requested from the House of Delegates at this time. If the House of Delegates wishes to take any action, this committee will be glad to cooperate.

Sub-Committee on
Liaison with Vocational Rehabilitation
John P. Wood, M.D., Chairman

Members of the Sub-Committee on Liaison with Vocational Rehabilitation met with representatives of the Vocational Rehabilitation Division of the Department of Social and Rehabilitative Services at the November Mid-Winter meeting of the Arkansas Medical Society in Little Rock. Mr. Russell Baxter, Dr. Howard Schwander, Mr. Lewis Urton and Mr. Young Orsburn were present to present current and future programs in vocational rehabilitation.

Dr. King Wade, Jr., announced with regret his

resignation from the committee due to his retirement from the practice of medicine.

Present and future plans discussed included the following:

Mr. Baxter was highly complimentary and appreciative of the efforts of Senator Dale Bumpers in shaping national legislation which, in effect, protects the formula for present funding for the smaller states. His efforts prevented a catastrophic decrease in funding for the less populated states, such as Arkansas.

A new authorities program, on a national level, recommending independent living for the severely handicapped was discussed. Funding is minimal at this time, however.

It was also pointed out that on a national level a new institute for deaf research has been initiated with a Presidentially appointed sixteen member board.

It was reported that a new joint training program was to begin with emphasis on early vocational planning for the disabled child.

The Rehabilitation Department also stated that they would soon be involved on a national level with the disabled cancer patient and other individuals suffering from severe debilitating diseases. This will be chiefly research and planning in association with the National Institute of Health.

It was reported that funding prospects for the coming year appear good.

The status of the Spinal Cord Commission remains essentially unchanged — to remain a separate commission while utilizing rehabilitation case managers.

The Committee has enjoyed full cooperation with the Vocational Rehabilitation Division of the Department of Social Services during the past year.

**Committee on
Continuing Medical Education
Ray V. Biondo, M.D., Chairman**

The Committee on Continuing Medical Education is charged with the responsibility of considering questions pertaining to medical education and developing continuing medical education requirements for maintaining membership in the Society as provided by the By-Laws.

The Committee also has the responsibility of surveying and recommending to the national accrediting group, the Liaison Committee on

Continuing Medical Education, those organizations and institutions felt worthy of accreditation to offer Category 1 credit toward the American Medical Association Physician's Recognition Award.

The Committee on Continuing Medical Education has surveyed and recommended to the Liaison Committee on Continuing Medical Education the following organizations which have been accredited: St. Vincent Infirmary, Baptist Medical Center, Memorial Hospital, the Arkansas Academy of Ophthalmology, St. Joseph's Mercy Medical Center, and the Committee on Scientific Programs of the Arkansas Medical Society. In addition to those mentioned, the University of Arkansas College of Medicine including the Area Health Education Centers have acquired accreditation directly from the Liaison Committee on Continuing Medical Education.

As of February 1, 1979, 19 state medical societies have CME requirements for membership and 18 state medical boards have CME requirements for relicensure. The demands for these requirements were created by those who hopefully feel that mandatory requirements will improve the quality of medical care, possibly reduce costs, and decrease malpractice. The literature reveals that such justifications are at best questionable and will undoubtedly increase the cost of medical care.

The goals of our committee have been to assist in the accreditation of those organizations who meet the requirements so that relatively inexpensive quality educational programs are available to physicians across the State. While establishing CME requirements for Society membership, the committee has attempted to establish requirements consistent with the Constitution and that do not create excessive paperwork and recordkeeping for the physicians or the Society staff and are similar to the requirements in other states.

I wish to thank the members of the committee and the Society staff for their assistance. Members of the Committee on Continuing Medical Education are Dr. Wayne G. Elliott, Dr. Lee Parker, Jr., Dr. James W. Sanders, Dr. Bernard Capes, Dr. Robert H. White, Dr. W. M. Wells, Dr. Neil E. Crow, Dr. James D. Busby, Dr. Bruce E. Schratz, Dr. C. Lynn Harris, and Dr. Neil H. Sims.

Appendix 1

Portion of Society Constitution Pertaining to Continuing Medical Education

Section 6. Continuing Medical Education

Continued membership in the Society is dependent upon compliance with continuing medical education requirements as specified below:

(A) Classification of Members affected

All members of the Society will comply with this charge, except those retired from practice, those still engaged in their formal medical or specialty education, non-resident members and those in full-time administrative positions. Those members unable to fulfill requirements because of impaired health or extenuating circumstances may be exempt on a temporary basis by the Committee on Continuing Medical Education.

(B) Central Authority

The Committee on Continuing Medical Education will be charged with the determination of the requirements for maintaining membership in the Society. Their initial determination as well as any changes recommended must be submitted to the House of Delegates for approval. Alterations in the number of hours of continuing medical education required may be made at any regular meeting of the Society by the House of Delegates. The Council will serve as an arbitration committee if a decision of the Committee on Continuing Medical Education is questioned.

(C) Acceptable Alternate Plans

Alternate plans of acceptable requirements which would be considered equal to or exceeding the requirements established by the Committee on Continuing Medical Education and the House of Delegates would include:

- (1) Compliance with the requirements for the Physician's Recognition Award of the American Medical Association;
- (2) Compliance with the continuing education requirements of the American Academy of Family Physicians;
- (3) Documentation of recertification by any specialty board provided the physician limits his practice to the definition of the specialty;
- (4) The continuing medical education requirements of specialty societies other than the American Academy of Family Physicians, should such become established. Such programs would be subject to review

by the Committee on Continuing Medical Education prior to their acceptance.

(D) Three-year continuum

Each member subject to continuing medical education requirements shall have three years to complete the required hours. The three-year continuum begins January 1 of the initial year.

Appendix 2

The Continuing Medical Education Committee makes the following recommendations to the House of Delegates:

1. The three-year continuum shall be on a calendar-year basis. The initial three-year continuum shall begin January 1, 1979. There shall be a one-year, one-time grace period from January 1, 1982, to January 1, 1983, to meet the requirements before membership is terminated for failure to meet CME requirements.
2. A six month Society staff survey be completed on each accredited organization.
3. Each accredited organization should inform the Society office of each Category I continuing medical education program.

Recommendations concerning requirements for Society membership:

1. Implementation dates should begin January 1979 and requirements are to be met a maximum of each three years with a one year grace period from January 1982 to January 1983.
2. Requirements to comply with the Constitution would be fulfilled if the individual physicians —
 - A. Completed requirements for the Physician's Recognition Award of the American Medical Association; or
 - B. complied with the continuing medical education requirements of the American Academy of Family Physicians; or
 - C. presented documentation of recertification by any specialty board provided the physician limits his practice to the definition of the specialty; or
 - D. completed continuing medical education requirements of the specialty societies other than the American Academy of Family Physicians, as such become established. Such programs would be subject to review by the Committee on Continuing Medical Education prior to their acceptance; or

- E. for those physicians who do not meet the above criteria, the member must provide the Society office with verification of having received a total of 150 CME credit hours in a three-year period. Sixty credit hours may be in Category I; the remaining ninety hours may be in any combination of categories within the limitations specified below for each category:

CATEGORY 1: CME Activities with Accredited Sponsorship or Cosponsorship

A minimum of 60 credit hours in this category is required. All 150 credit hours may be earned here. To qualify for Category I credit, a CME activity must be sponsored or cosponsored by an organization accredited for CME and must meet the definition of a planned program of CME.

CATEGORY 2: CME Activities with Non-Accredited Sponsorship (45 hour credit limit)

Programs that do not both have accredited sponsorship and meet the definition of a planned program of CME should be claimed in Category 2. Examples include scientific sessions of an accredited organization which do not meet the definition of a planned program or CME activities of a non-accredited organization that do not have accredited cosponsorship, such as medical staff meetings in a non CME accredited hospital. CME activities conducted by individual educators should be counted in Category 5(b) (Consultation).

CATEGORY 3: Medical Teaching (45 credit hour limit)

Credit may be claimed for contact hours of teaching medical students (including preceptees), residents, practicing physicians and allied health professionals.

CATEGORY 4: Papers, Publications, Books and Exhibits (40 credit hour limit)

Ten credit hours may be claimed for each scientific paper published in a medical journal, and for presentation of a paper or exhibit to a medical audience. Credit should be claimed as of the date the matters were presented or published and claimed only once.

CATEGORY 5: Non-Supervised CME (45 credit hour limit)

Not more than 22 credit hours may be claimed in any one subcategory. (a) Self-Instruction (including journal reading and the use of television and other audiovisual materials), (b) Consultation (the education of a physician received from a consultant), (c) Patient Care Review (participation in programs concerned with review and evaluation of patient care), (d) Self-Assessment (time spent in a self-assessment examination, not including examinations and quizzes published in journals).

CATEGORY 6: Other Meritorious Learning Experiences (45 credit hour limit)

Category 6 includes CME Activities and experiences that are not appropriate for any of the other categories. If possible, an accredited organization should be involved in planning, coordinating, administering and evaluating the CME activity. In applying for Category 6 credit, the following questions about the training must be answered in a letter.

1. What CME need was this experience designed to meet?
 2. How was this CME need determined?
 3. What was the educational objective(s) and what was the knowledge level or skill that was achieved?
 4. What was the program or activities that were used to meet this objective?
 5. What educational techniques were used in the CME program?
 6. Who was the instructor or the sponsoring educational institution?
 7. How was the experience evaluated in terms of meeting the educational objective?
 8. How many hours of CME activities were earned, what were the inclusive dates and where was it done?
3. The record-keeping aspects of the requirements would be simplified by requiring all physicians to submit to the Arkansas Medical Society a photocopy of the information indicating the receipt of the Physician's Recognition Award, compliance with Academy of Family Physicians requirements or specialty board requirements. Those not complying

with the above will be furnished with a special form to be completed indicating compliance with the alternate requirements. The three-year requirement would be met by forwarding a completed copy of the Arkansas

Medical Society form, a photocopy of specialty society transcript or certificate, or a photocopy of the American Medical Association Physician's Recognition Award application or PRA certificate.

Appendix 3
CONTINUING MEDICAL EDUCATION
REQUIREMENTS OF STATE MEDICAL SOCIETIES
OR STATE LICENSING BOARDS

State	Society Membership Requirement	Date of First Reporting	Summary of Requirements	Licensure Requirements	Date of First Reporting	Summary of Requirements
Alabama	X	6-30-82	Same as PRA*			
Alaska				X	5-22-76	90 hrs. over 3 yrs.
Arizona	X	7-1-74	Same as PRA	X	2-28-79	69 hrs. over 3 yrs.
California	X	?	75 hrs. of Cat. 1 in 3 yrs.	X	7-1-77	100 hrs. Cat. 1 over 4 yrs.
Colorado				X	1981	Same as PRA except 60 hrs. limit for Cat. 2, 3, 4
Delaware				X	1976	50 hrs. Cat. I over 3 yrs.
Dist. of Columbia	X	1-1-77	Same as PRA			
Florida	X	1-1-76	Same as PRA			
Hawaii	X	1-1-79	50 hrs. 1 yr., 20 hrs. Cat. I	X	1-1-80	50 hrs. 1 yr., 20 hrs. Cat. I
Illinois				X	7-1-78	100 hrs. over 2 yrs.
Kansas	X	6-30-79	Same as PRA	X	7-1-78	Same as PRA
Maine	X	1-1-80	20 hrs. Cat. I per year			
Maryland				X	7-1-78	100 hrs. for 2 yrs., 40 hrs. in Cat. I
Massachusetts	X	5-19-76	Same as PRA	X	1980	100 hrs. for 2 yrs.
Michigan				X	1977	50 hrs. each yr.
Montana	X	4-1-76	Same as PRA			
New Hampshire	X	1-1-78	Same as PRA	X	3-27-78	Same as PRA
New Jersey	X	5-1-72	Same as PRA			
New Mexico				X	11-1-72	Basically same as PRA
New York	X	3-1-81	50 credits per yr.; 25 in Cat. I			
North Carolina	X	5-1-74	Same as PRA			
Ohio				X	1-1-77	Same as PRA
Oklahoma	X	1-1-81	Same as PRA			
Oregon	X	1-1-70	150-300 hrs. in 3 yrs.			
Pennsylvania	X	12-31-76	Same as PRA			
Rhode Island				X	1-1-80	60 hrs. for 3 yrs.
South Dakota	X	1-1-80	Same as PRA			
Utah				X	1978	120 hrs. for 3 yrs.
Vermont	X	1-1-79	Same as PRA			
Washington				X	1979	Up to 90 hrs. in Cat. I, 60 hrs. in others
Wisconsin				X	?	30 hrs. every 2 yrs.

*Physician's Recognition Award



**Report of the
Constitutional Revision Committee
A. S. Koenig, Jr., M.D., Chairman**

There has been no meeting of the Constitutional Revision Committee during this year. The committee received from the Council a recommendation that the Constitution be amended to make the immediate past president a voting member of the Council. The committee has drafted the following proposed amendment to implement this recommendation:

Amend the Constitution, Article VI, Council, Section 2, Composition of Council, to read as follows:

The Council shall consist of the councilors, the president, first vice president, president-elect, secretary, treasurer, *and immediate past president*. The speaker and vice speaker of the House of Delegates and the past presidents shall be members ex-officio without vote; *the immediate past president shall have a vote*. There shall be two councilors from each councilor district to serve staggered terms of two years each. All councilors shall have equal voting privileges. A majority of the voting members shall constitute a quorum.

(Note: Italics indicates proposed new copy.)

This proposed amendment will be presented to the House of Delegates for a first reading on April 22nd.

**Ad Hoc Committee on Liaison
With Health Systems Agencies
Kemal Kutait, M.D., Chairman**

The Ad Hoc Committee on Liaison with Health Systems Agencies is composed of physician members of the four HSA boards and members of the State Health Coordinating Council, which functions as the Advisory Group to the State Health Planning and Development Agency.

Meetings of the committee have been held for the purpose of informing members of the committee of the happenings in each of the HSA districts as well as the State Coordinating Council.

The HSA's and the State Health Coordinating Council have spent a great deal of time preparing their health systems plans and annual implementation plans. It is the responsibility of the State Health Planning Agency to prepare a State Health Plan that must be approved by the State Health Coordinating Council. This overall state plan encompasses a great deal of information on

the planning aspects of each of the individual HSA's.

The health systems plans and annual implementation plans of each of the HSA's, as well as the State Health Plan, must be approved by the HSA boards and State Coordinating Council and also held before a public hearing. It is extremely important that the physicians across the State remain abreast of the developments of the HSA's in their district.

The primary control aspects of each of the health planning groups have been aimed at institutional health services. The primary thrust at the institutions has been to reduce costs through reduction of unnecessary services or by approving or disapproving of capital expenditures in excess of \$100,000 or any increase in bed capacity of hospitals or nursing homes. It should be pointed out that many of the functions being carried out by the health planning groups are mandated by the Department of Health, Education and Welfare.

There are some things mentioned in the State Health Plan that might be of particular interest to physicians. The plan states that in the future the health planning groups may very well look at the appropriateness of existing institutional health services from the standpoint of wasteful or duplicated services. It was pointed out that the State could, if they so desired, apply for funds to conduct a rate regulation program for health facilities. Arkansas has not decided to initiate any regulation programs but it was pointed out that the need for such will be reviewed periodically. In the areas of health manpower, there is emphasis placed on the utilization and training of physician's assistants and nurse practitioners as a means of alleviating the shortage of health manpower. Specific mention was made for the need to develop regionalized obstetric and neonatal special care units. The following is a listing of the physician board members of each of the HSA's and physician members of the State Health Coordinating Council: *West Arkansas Health Systems Agency* — Dr. Jean C. Gladden, Harrison; Dr. A. S. Koenig, Fort Smith; Dr. James Gardner, Hot Springs. *Delta Hills Health Systems Agency* — Dr. James M. Stalker, Batesville; Dr. Robert E. Elliott, Searcy; Dr. Don B. Vollman, Jonesboro; Dr. S. A. Spades, Walnut Ridge. *Central Arkansas Health Systems Agency* — Dr. Bob G. Banister, Conway; Dr. Roger Bost,

Little Rock; Dr. Warren Douglas, Little Rock; Dr. Willie R. Harris, England; Dr. W. Payton Kolb, Little Rock, Dr. Gordon P. Oates, Little Rock. *South Arkansas Health Systems Agency* — Dr. John Crenshaw, Pine Bluff; Dr. William Joe James, Pine Bluff; Dr. James B. Kittrell, Texarkana; Dr. James Guthrie, Camden; Dr. Kenneth R. Duzan, El Dorado. *State Health Coordinating Council* — Dr. Roger Bost, Little Rock; Dr. Jean Gladden, Harrison; Dr. Bob Banister, Conway; Dr. Rex Ramsay, Little Rock.

Private Insurance Review Committee

H. Austin Grimes, M.D., Chairman

The Private Insurance Committee provides peer review on cases submitted by private insurance companies and/or physicians where there is a difference of opinion on reasonable fees for patient benefits under insurance plans with usual, customary and reasonable charge provisions.

From time to time, the committee has requested that the insurance companies provide more information to assist the committee in its deliberations. During this year, certain insurance companies have cooperated by providing the type of information requested by the committee and this has allowed the committee to continue to function.

Since the last report of the committee, forty-two case files have been submitted for review. Recommendations have been made on forty-one cases; one case is being held pending receipt of additional information. The recommendation of the committee has not been protested in any case.

Medical Services Review Committee

Charles F. Wilkins, Jr., M.D., Chairman

The Medical Services Review Committee continues to meet in the Blue Cross-Blue Shield Board Room the fourth Wednesday of each month to give advice to the Medical Director of Blue Cross-Blue Shield.

As expected, the advent of Professional Services Review Organization has had little impact on the work of this committee.

Seventh Councilor District

Professional Relations Committee

C. F. Peters, M.D., Chairman

In the year of 1978, the Seventh Councilor District Professional Relations Committee had one case brought before it.

This case was gone into thoroughly and, to the best of my knowledge, was settled satisfactorily to all parties concerned.

**State and Eighth Councilor District
Professional Relations Committee**

Richard M. Logue, M.D., Chairman

The following report is being submitted to you by the undersigned as Chairman of the Professional Relations Committee for the State and Eighth Councilor District.

Three cases have been referred to this committee during the past calendar year. Two of these have been satisfactorily resolved through telephone conferences and one is still pending. It is anticipated that this case will likewise be disposed of without proceeding to a formal hearing.

Ninth Councilor District

Professional Relations Committee

Charles A. Ledbetter, M.D., Chairman

The Ninth Councilor District Professional Relations Committee considered and responded to one grievance of charges between hospital and patient. The committee responded by a survey of district hospital charges and by supplying these and its findings to the patient.

Tenth Councilor District

Professional Relations Committee

Samuel E. Landrum, M.D., Chairman

In 1978, the Committee has investigated and responded to two complaints regarding physicians' fees and one complaint regarding services in a physician's office. These matters were clarified apparently to the satisfaction of the patients.

One physician was censured by the Committee after evaluating a complaint by another physician.

Second Councilor District

Paul Gray, M.D., Councilor

John E. Bell, M.D., Councilor

This is to certify that the Councilors of the Second District have been actively involved in informing members of the Constitutional Convention of the opinion of the members of our medical society.

We are also involved in actively letting the Legislature — our representatives and senators in the district — know how we feel about the bills being presented. Each county representative and the senator from each district has been contacted, including Senator Max Howell and Representa-

tive John Miller of Melbourne, Speaker of the House.

All members have been asked to write their representatives and senators.

On February 13, 1979, Dr. George F. Wynne spoke to our members at the District Meeting held in Batesville. He brought us an up-to-date report on the activities of the Society and also the Legislature. All members had been notified and we had a very good attendance.

Fifth Councilor District

George W. Warren, M.D., Councilor

The Fifth Councilor Medical District had its annual meeting at the El Dorado Country Club on January 17, 1979. Dr. Wayne Elliott, Secretary, presided in the absence of our president, Dr. George F. Wynne of Warren. The weather was extremely inclement causing a marked decrease of the usual number in attendance. The Councilor's report was given stressing those acts being introduced in the Legislature by Representative John Lipton from Warren, Arkansas, the current Society president's hometown. It was requested that each member present, in the event that they were able to be in correspondence or communication with their representatives and senators, to please mention Acts 107, 108, 109 and 110. Officers were elected with Dr. Wayne Elliott being elected president and secretary for the ensuing year. Dr. George Warren, who was elected at the last annual meeting to fulfill the unexpired term of Dr. John Moore, was nominated for a two-year term as Councilor. Dr. Eli N. Root of the Department of Internal Medicine, Kelsey Siebold Clinic, Houston, Texas, spoke on the topic "Newer Aspects in the Treatment and Diagnosis of Neoplastic Disease."

Seventh Councilor District

Robert F. McCrary, M.D., Councilor

A councilor district meeting was held early in 1978 at the DeGray Lodge near Arkadelphia. Attendance was affected by weather conditions but an interesting program was well received by those in attendance. Since 1978 was an election year, the role of the physician and the Arkansas Medical Political Action Committee (Ark-PAC) was one of the topics for the morning socio-economic program. Other subjects included the role of the Arkansas Foundation for Medical Care, the One-Area Fee Schedule for Medicare, and the proposed malpractice amendment. A scientific

program co-sponsored by the Department of Continuing Education of St. Joseph Mercy Medical Center in Hot Springs was presented in the afternoon. The program qualified for four hours Category I credit.

The councilor district meeting for 1979 was held January 20th at the Avanelle Motor Lodge in Hot Springs. The Legislature was in session and the Society-sponsored legislation pertaining to malpractice had been introduced. The program for the district meeting included discussion of malpractice from the viewpoint of the Insurance Commissioner, and St. Paul Insurance Company, and the trial lawyers. A scientific program was presented in the afternoon. The program was again co-sponsored by St. Joseph and qualified for four hours Category I continuing medical education credit.

Eighth Councilor District

Ray Jouett, M.D., Councilor

The members of the Eighth Councilor District met a number of times during the past year, trying to keep abreast of the problems relative to medicine, both scientific and political. The highlights of the District's activities follow.

1. Accepted 45 new physicians as active members of the Society and 21 for courtesy membership.

2. Approved a resolution to be sent to the Board of Mental Health Services requesting that the position of Commissioner of Mental Health Services be a Board Certified psychiatrist.

3. Held meetings with all of the Democratic candidates for Congress from the Second Congressional District.

4. Contributed financially to the Aldersgate Medical Camp.

5. Provided the services of the Pulaski County Medical Society staff and use of office facilities in the malpractice petition campaign.

6. Adopted a resolution for the attention of the University of Arkansas Board of Trustees requesting that the vacancy of the office of Chancellor of the University of Arkansas for Medical Sciences to be filled by a doctor of medicine.

7. Worked closely with the Central Arkansas Health Systems Agency in helping to elect new board members proposed by the medical community.

8. Met with the staff of the Central Arkansas Health Systems Agency to determine the HSA plans for the year.

9. Held a membership meeting at the Central Arkansas Radiation Therapy Institute to acquaint members with the services of the organization.

10. Presented a resolution to the Governor requesting that the program of nursing home inspections be retained by the State Health Department.

11. Endorsed the proposed program of HOSPICE.

12. Made an in-depth study of a proposed HEW grant for the Health Center of Pulaski County.

13. Held a meeting at the University of Arkansas for Medical Sciences to acquaint members with the new facilities.

14. Continued to work with and support activities of the Pulaski County Medical Assistants Society.

15. Continued to provide physicians in the District with services, including answering service and group health plan.

16. Continued the activities of a number of committees, including the Grievance Committee and Board of Censors.

17. Recommended membership of physicians to the Central Arkansas Health Service Agency.

These are but a few of the many activities in which this District has been involved in the past year.

Tenth Councilor District

Charles F. Wilkins, Jr., M.D., Councilor

No significant activity has occurred in the Tenth Councilor District during this year. No Councilor District meeting was held this year.

REPORT OF THE COUNCIL

John P. Burge, M.D., Chairman

The Executive Committee met on May 28, 1978, and took action recommending that 25¢ per signature be authorized to be paid out of State Society funds to the county medical societies wishing to be compensated for obtaining signatures on petitions to put the Malpractice Amendment on the ballot.

The Council of the Arkansas Medical Society met on Sunday, June 11, 1978, at the Camelot Inn in Little Rock and transacted the following business:

1. Legal Counsel Eugene Warren reported that since sufficient signatures had not been obtained by January 1 for submission of the

initiated petitions to the Secretary of State, the Society was responsible for publication in a general newspaper of the State the wording of the proposed Constitutional Amendment. The deadline for such publication was June 6 and the Society had not complied with this provision. Mr. Warren advised the Council that he had been unaware of this provision and acknowledged responsibility for the oversight. He stated that there was no way of qualifying the amendment for the general election ballot. Mr. Warren recommended that an attempt be made to get a modified version of the New Hampshire statute enacted by the Arkansas Legislature with a severability clause. He further recommended that the Society issue a statement to the press announcing the termination of the petition drive and the Society's plan to work toward enactment of legislation. The Council so voted. The Council approved wording of the news release as follows:

"Arkansas Medical Society Stops Petition Drive

During the course of our preparation to submit a proposed constitutional amendment to the people of Arkansas to authorize legislation to avert a malpractice litigation crisis, our opponents have steadfastly contended that we could obtain the relief we sought by legislative act and that we did not need to amend the Constitution. It now appears that our petition drive will not be successful. We will as of now cease work on the petitions for a constitutional amendment and abandon that effort. We call upon those who have urged us to go the legislative route to display their good faith and support us in preparing and presenting this legislation."

At the request of Mr. Warren, the Council appointed a committee composed of Morris Henry, Rhys Williams, and Elvin Shuffield to work with legal counsel in drafting proposed legislation patterned after the New Hampshire legislation.

The Council voted that a resolution be drafted thanking Mrs. Kolb for her work as chairman of the Healing Arts Committee.

2. The Council noted with regret the death of one of its former members, Dr. William S. Orr, Jr., of Little Rock, and adopted a memorial resolution.

3. Glenn Dalrymple, one of the Society's representatives to the Arkansas Committee on Voluntary Cost Containment Committee, reported on the initial action of the committee. He recommended to the Council that a letter be forwarded by the Society president to all hospital chiefs of staff in the State indicating a sense of sincere desire to support the voluntary cost containment effort. The Council authorized President Wynne to issue the letter.
4. Upon the recommendation of the councilors from the ninth district, the Council appointed Dr. John W. Vinzant of Fayetteville to fill the unexpired term of Dr. Coy Kaylor on the Arkansas State Arbitration Commission.
5. Dr. Robert McCrary of Hot Springs discussed a question which had been presented to him by the Garland County Medical Society at the request of the City Council of Hot Springs. A local clinic has applied for financing of an expansion under Act 142. The Council approved a statement expressing the opinion that it considered Act 142 to be legal and valid and transactions thereunder by physicians to be entirely ethical.
6. The Council discussed a letter from the Arkansas Society of Internal Medicine advising that the group would no longer hold its meetings in conjunction with the Arkansas Medical Society and would meet in conjunction with the regional meeting of the American College of Physicians. The letter stated that "the goals of the Society of Internal Medicine do not necessarily coincide with the goals of the Arkansas Medical Society." Dr. Wilkins advised the Council that there was no dispute involved, merely that the scientific program at the Medical Society meeting was not the primary function of the Arkansas Society of Internal Medicine. President-elect Andrews expressed concern about the fragmentation indicated by various specialty groups scheduling meetings separate from the Society convention and the need for some effort to get members of the specialty groups to actively participate in State Medical affairs. The Council voted to thank the Arkansas Society of Internal Medicine for its past assistance to the State Society and ask that individual members of the Society of Internal Medicine continue to attend the Medical Society meeting

and participate in its activities.

7. Mr. Warren reported to the Council on his study of regulations and rulings regarding payments for physician services under Medicare. He advised the Council that he was of the opinion it was not feasible to consider legal action at this time concerning the method of determining payment under Medicare.
8. The Council considered a request from the Prudential Insurance Company that the Society consider establishment of a panel for a second opinion surgical program for employees of the Wal-Mart stores in Northwest Arkansas. The Council voted to advise the insurance company that the Society has not established any type of second opinion consultant program and that it does not feel such a program is indicated at this time inasmuch as our peer review programs have not found any cases of unnecessary surgery.

The Council met on Sunday, August 6, 1978, at the Camelot Inn in Little Rock and transacted the following business:

1. Chairman Burge reviewed actions of the Executive Committee since the last meeting of the Council.
 - (a) In late June, the Executive Committee approved distribution of a letter to membership giving details on the failure of the petition campaign. Dr. Burge asked for a separate vote on this item because of the dissatisfaction of some of the membership regarding the handling of this issue. Chairman Burge read a letter from the president of the Boone County Medical Society regarding the petition campaign and Dr. Jones requested information on the final cost of the project. Dr. Long indicated that some small bills were still coming in and it was not possible to give a complete total but it was anticipated that the total expenditure would be approximately \$11,000. The action of the Executive Committee was approved with one member dissenting. (Note: Actual expenditures were \$10,409.40.)
 - (b) On July 26, the Executive Committee set the date of November 19th for the winter meeting of the Society and authorized expenses for up to three representatives to attend a conference on Continuing Med-

ical Education in Chicago in early October. The Council approved these actions of the Executive Committee.

2. Chairman Burge presented Margaret Kolb a resolution of appreciation for her work as chairman of the Healing Arts Committee.
3. Chairman Burge reported to the Council on the result of staff investigation to date regarding accidental death insurance for Council members while on Society business. He gave information on two proposals for \$100,000 coverage — one at a cost of \$4,200 per year and one at a cost of \$280 per year. The latter proposal excluded coverage for either the pilot or passenger of private aircraft. The Council directed the staff to obtain additional information on such insurance to cover all modes of transportation. In response to a question from Dr. Shuffield, Chairman Burge stated that proposals would be brought back to the Council for consideration.
4. The senior delegate to the American Medical Association, Purcell Smith, gave a report on the recent meeting in St. Louis. He also discussed with the Council a suggestion that Arkansas delegates caucus with neighboring states during AMA sessions and asked for direction regarding the proposal. The Council voted to allow delegates discretion in joining other states for the caucus, provided the Society is not obligated to additional expenditures.
5. Councilors from the ninth district nominated Dr. J. Y. Massey of Mountain Home for a vacancy on the district Professional Relations Committee. The Council approved the appointment of Dr. Massey to the committee.
6. William Jones discussed the desirability of outside consultants in the work of the committee studying the location of the headquarters office. In accordance with action of the House, the committee should contact the Council for approval of such an expenditure as necessary if, in the course of its study, it needed outside expert consultation. Dr. Jones moved that the Council authorize the committee to expend up to \$15,000 for services of a consulting firm. By standing vote, the motion was defeated. The Council voted to poll the Council regarding the expenditure of funds for the consulting firm if a request for funds is received from the committee

prior to the next meeting of the Council.

7. The Council authorized expenses for Payton Kolb and Mr. Warren to attend a national conference on the impaired physician.

The Council met on Sunday, October 8, 1978, at the Camelot Inn in Little Rock and transacted the following business:

1. Dr. Long reported on the further study made by the staff regarding accidental death insurance for members of the Council which would cover all modes of transportation. He advised the Council that numerous requests to insurance companies resulted in the same response — group coverage would exclude private pilots. Wilkins moved that, in view of the inability to obtain coverage on an equitable basis, the Society give no further consideration to the matter. The Council so voted.
2. Dr. Kolb reported to the Council on a national conference on the impaired physician which he had attended as a Society representative.
3. Mr. Warren presented a draft of a legislative proposal for the Arkansas Legislature pertaining to medical malpractice. The Council discussed several provisions of the proposal and requested that Mr. Warren consider modifications in some areas. The Council voted to request that Mr. Warren present a revised version of the proposal to the House of Delegates for consideration in November.
4. Dr. Benafield reviewed for the Council the proposed implementation of the new Blue Shield program. It is anticipated that the new program will begin January 1, 1979. A new physician's manual has been developed incorporating the CPT-4 coding and it will be distributed to physicians in the near future. There is no participating agreement for the program; an assignment provision is incorporated in the claims form. Information on the program will be presented to the House of Delegates at the Society's winter meeting.
5. Dr. Wilkins discussed the Society policy of record regarding representation on the Board of Trustees of Arkansas Blue Cross-Blue Shield. The Council voted to change its policy to allow Society representatives to the Blue Cross-Blue Shield Board of Trustees to be re-elected to one six-year term, then be off one

year before being eligible for re-election to the Board.

6. The Council voted to authorize expenses for five individuals to attend the AMA Leadership Conference in February 1979. The Council voted to request that any individual elected to the Council during the last two years advise the Society office if he would be interested in attending the conference. The information will be brought back to the Council for further consideration if the listing exceeds five.
7. Chairman Burge reported that the American Medical Association had asked the Society for an evaluation of the AMA's health insurance proposal and suggestions concerning the profession's position on the issue. Dr. Purcell Smith, AMA delegate, discussed the provisions of the AMA proposal and recent deliberations of the House of Delegates. The Council voted to continue support of the AMA in its proposal as it is at present.
8. Chairman Burge reported that H. W. Thomas had submitted his resignation as chairman of the Budget Committee. The Council voted to appoint an ad hoc nomination committee, at the discretion of the chairman, for selection of a nominee to fill the vacancy.

The Council met on Sunday, November 19, 1978, at the Camelot Inn in Little Rock and transacted the following business:

1. Rex Ramsay, Director of the State Health Department, discussed the inspection program for nursing homes in Arkansas and presented the following resolution for consideration by the Council:

WHEREAS, the need for the improvement of care in nursing homes is recognized; and

WHEREAS, it is noted that the Arkansas Medical Society has for many years supported the improvement of care in nursing homes in Arkansas, and

WHEREAS, this organization has supported the Department of Health as the regulatory authority for licensing and reviewing the quality of care in nursing homes, and

WHEREAS, we are deeply concerned that a proposal has been made to create within the Department of Human Services a Medical Services Division which would consolidate the regulatory authority of the Department of Health and the authority of the Arkansas

Social Services in regulating nursing homes;

BE IT THEREFORE RESOLVED THAT this current program and any future programs of this nature be the continued responsibility of the Department of Health.

The Council adopted the resolution.

2. Jim Lytle, chairman of the Study Committee on Location of the Headquarters Office, reported to the Council that his committee requested authorization from the Council to spend up to \$2,500 to obtain service of a consulting firm to assist in determining cost figures required in the House's charge to the committee. The Council approved the committee's request.
3. Chairman Burge reported to the Council that he had appointed A. E. Andrews, John Bell, and L. J. P. Bell as an ad hoc advisory committee to assist him in selecting a replacement for Dr. Thomas on the Budget Committee. He reported that the committee recommended increasing the Budget Committee to five, adding Asa Crow, Rhys Williams, and William Jones to the two present members — Treasurer K. R. Duzan and Ken Lilly. The Council voted to increase the Budget Committee to five members as proposed, with four members to have staggered terms (decided initially by drawing straws) and the treasurer of the Society is to be a standing member of the committee. Chairman Budge designated Ken Lilly as chairman of the committee.
4. Chairman Burge reminded the Council that the Society was cooperating in a voluntary cost containment effort and suggested that perhaps a Council committee on cost containment should be established. No action was taken by the Council.
5. Kemal Kutait, chairman of the Study Committee on the Boone County Resolution, requested Council approval of mileage and overnight expenses for meetings of his committee. The request was not approved by the Council.
6. John Bell requested information on the Society's position regarding the American Medical Association's proposed settlement of the Pennsylvania chiropractic suit. The Council voted to endorse the policy set forth by the College of Surgeons and the College of Radiology. The position endorsed is that the terms of the settlement agreement conflict with established AMA policy and that the

Board of Trustees did not have the authority to commit the AMA to the settlement.

The Council met on Sunday, February 4, 1979, at the Camelot Inn in Little Rock and transacted the following business:

1. The Council was advised of the illness of past president L. A. Whittaker and adopted a resolution expressing best wishes for a speedy recovery.
2. The Council voted to request a meeting with the Governor to discuss with him all matters affecting health care so that the profession might have some input in such matters.
3. The Council voted to go on record as requesting that in the future the State Health Department submit to the House of Delegates its proposed legislative program for consideration at the winter meeting prior to the legislative session.
4. Dr. Shuffield reported for the Committee on Medical Legislation. He gave information on the current status of the following proposals:
 - (1) HB 80 — Natural Death Bill. On floor of House the definition of physician was deleted by amendment.
 - (2) HB 107 — Bill defining chiropractor as "chiropractic physician." When the bill was brought up in committee, it was amended to strengthen the position of the chiropractors so we requested that our bill be pulled down. The Council voted to try to get the proposal passed, even as amended, because the remainder of the bill pertaining to advertising would be beneficial.
 - (3) HB 108 — Bill to provide inspector for the Medical Board. This bill was amended in committee to provide that as long as the State Board of Health Inspector was available he would be used, and in the event he couldn't do the Medical Board's work, then the Medical Board could hire an inspector and that bill passed the House.
 - (4) HB 110 involves appeals of cases heard before the State Medical Board involving revocation or suspension of licenses. It has passed the House.
 - (5) HB 109 — the malpractice bill. There is opposition from the trial lawyers to the proposal but it has not been possible to get together to work out the differences.

It appears that there will have to be a public hearing on this proposal. The Council voted to authorize Dr. Shuffield and Mr. Warren to work out modifications in the proposal to the extent they felt acceptable to the medical profession.

- (6) HB 440 — This is the bill which eliminates the requirement for a physician to have practiced in the State for six years before being eligible for appointment as State Health Officer. Dr. Shuffield stated that the bill also eliminates the requirement that the State Health Officer be a physician and seems to even eliminate the Board of Health.

Dr. Shuffield urged members of the Council to talk to physicians at home and urge them to call their legislators. He indicated that he anticipates legislative proposals in the near future from the chiropractors and optometrists and physicians need to be talking to their legislators about medicine's position.

5. Purcell Smith, senior delegate to the American Medical Association, discussed the Aces and Deuces organization. He recommended that the Arkansas Medical Society discontinue participation in Aces and Deuces and that the Society join with neighboring states to form a regional group for discussion with other delegates of various issues before the AMA House of Delegates. In the event that such a regional group expands its activities to include social functions, then the Council would be asked to reassess participation on that basis. The Council voted to approve Dr. Smith's recommendation, upon motion of Henry.

The Council met in Executive Session to consider the proposed operating budget for the Society for 1979. Dr. Ken Lilly, chairman of the Budget Committee, presented the proposed budget as approved by the committee earlier that day. The Council approved a budget anticipating an income of \$466,764 and expenses of \$422,451. (Note: See Report of Budget Committee for breakdown of budget items.)

Report of the Executive Vice President C. C. Long, M.D.

Late in 1977, the staff was directed to work toward getting a medical malpractice amendment on the November 1978 ballot. This was to be done by the petition route. A great deal of time

and effort was expended on this project until the discovery was made that the amendment could not qualify for the ballot due to the lack of compliance with the required publication notice.

The staff has worked throughout the year with the Committee on Continuing Medical Education in developing methods of evaluating and monitoring hospitals so that they could be certified to give approved continuing medical education programs. Several hospitals have been approved and others are working toward developing programs that would qualify before approval. I appreciate the time and effort that has been expended by the Committee on Continuing Medical Education in making this program a productive and successful one.

The staff has put together and developed a slide program, a part of which has been presented to the Council. This program is designed to be presented to county medical societies showing them the organizational and financial state of the Society and try to make more clear to the members the structure and methods by which the Medical Society functions and meets the challenges that we face from day to day.

During the past several months, cost containment has been a subject of considerable discussion. The Society has supported the formation of a joint committee with the Hospital Association to address this problem. Dr. Roger Busfield of the Arkansas Hospital Association and I have staffed with committee. Hopefully, this effort will be effective in helping keep cost containment a voluntary effort and forestall a mandatory program.

Late in 1978, the House directed that we again attempt to address the malpractice problem through a legislative program and the staff has been working to acquaint our members with the issues that are involved in the malpractice program as well as other legislative matters which will be coming up during the session of the Legislature in 1979.

In the year ahead, I see several problems which we will be addressing; (1) cost containment; (2) continuing medical education programs; and (3) the legislative programs that will be presented to the State Legislature, as well as national programs, to affect the practice of medicine. We will be continuously monitoring the Health Systems Agencies, the Medicare and

Medicaid Programs, and the Health Department in attempting to have input and to try to protect the interest of the physicians and to work toward assuring our patients of the best in medical care that the profession will be able to render.

Budget Committee

Ken Lilly, M.D., Chairman

The Budget Committee submitted the following budget for 1979. The complete budget, as presented to the Council, is available to any member for his inspection at his request.

INCOME

<i>Budget Item</i>	<i>1979 Budget</i>
Membership Dues	\$385,424.00
Journal Advertising	
Local	\$10,000.00
National	15,000.00
Booth Income	10,000.00
Annual Session	3,000.00
AMA Reimbursement	1,500.00
Miscellaneous & Roster	500.00
Interest	18,000.00
Specialty Desk	600.00
Intrav Reimbursement	1,600.00
Ark. Foundation for Medical Care	20,640.00
Continuing Medical Education	500.00
	<hr/>
	\$466,764.00

EXPENSES

Salaries	\$160,926.00
Travel & Convention	35,000.00
President's Travel	1,500.00
Taxes	9,500.00
Retirement	51,150.00
Stationery & Printing	5,500.00
Office Supplies & Expense	12,500.00
Telephone & Telegraph	9,000.00
Rent	24,000.00
Postage	18,000.00
Insurance & Bonds	9,000.00
Auditing	1,800.00
Council Expense	6,000.00
Journal Printing	38,000.00
Annual Session	13,750.00
Winter Meeting	2,000.00
Dues & Subscriptions	4,000.00
Gifts & Contributions	1,000.00
Woman's Auxiliary	1,200.00
Legal Services	10,750.00
Special Committee	3,300.00
Rural Health	500.00

Miscellaneous	50.00
Freight & Express	25.00
Office Equipment	3,000.00
Continuing Medical Education	1,000.00
	<u>\$422,451.00</u>

**Report of the
Arkansas State Medical Board
January 1, 1978 - January 1, 1979**

The officers and members of the State Medical Board are as follows:

Ross Fowler, M.D., President
H. Elvin Shuffield, M.D., Vice President
Hugh R. Edwards, M.D.
Frank M. Burton, M.D.
John F. Guenther, M.D.
George F. Wynne, M.D.
C. Stanley Applegate, Jr., M.D.
Bascom P. Raney, M.D.
Joe Verser, M.D., Secretary-Treasurer
John B. Currie, Sr.
Eugene R. Warren, Attorney

The 1977 Arkansas Legislature created an Occupational Therapy Act. During the year, the State Medical Board met and set up rules and regulations for the certification of Occupational Therapists and Occupational Therapist Assistants. The Board also set up rules and regulations for the certification of Physical Therapist Assistants and Physical Therapist Assistant Trainees.

The State Medical Board published a 1978 annual directory and the 1979 directory has been printed. We should receive the new directory by the time this report is published.

A yearly financial report of the Board's activities, prepared by Johnston, Freeman & Company, has been sent to the office of the Arkansas Medical Society, a summary of which is included in this report.

The Board investigated every case of violation of the Medical Practices Act and every complaint filed against physicians reported to the secretary during the year.

The State Medical Board licensed 124 physicians by reciprocity and 181 physicians by examination during the year 1978.

Following is a summary of the Board's proceedings:

Physicians registered for 1978:	
Resident	2,602
Non-resident	1,750

Physicians licensed by examination	176
Physicians licensed by reciprocity	88
Physicians certified to other states	132
Licenses revoked for	
nonpayment of annual registration fee	36
Licenses suspended for	
nonpayment of annual registration fee	76
Licenses suspended for	
violation of Medical Practices Act	5
Cases pending for	
violation of Medical Practices Act	14

**Arkansas State Medical Board
Balance Sheet
June 30, 1978 and 1977**

ASSETS		June 30, 1978	June 30, 1977
Cash on hand	\$.00	\$ 131.00
Cash in banks —			
Bank of Harrisburg, Arkansas			
Checking account		29,235.15	28,171.61
Certificate of deposit #2298		.00	12,999.70
Certificate of deposit #4368		13,779.68	.00
Certificate of deposit #2424		7,000.30	7,000.30
Certificate of deposit #3170		8,553.71	8,553.71
Bank of Weiner, Arkansas			
Certificate of deposit #2290		2,746.35	2,746.35
Bank of Delight, Arkansas			
Certificate of deposit #1249		30,000.00	30,000.00
Security Savings and Loan, Camden, Arkansas			
Certificate of deposit #C8200		18,062.06	16,768.60
Certificate of deposit #C8309		11,280.15	10,472.35
Office equipment		4,909.62	3,906.47
Less: Accumulated depreciation		(881.61)	(390.65)
TOTAL ASSETS		<u>\$124,685.41</u>	<u>\$120,359.44</u>
LIABILITIES AND FUND BALANCE			
Vouchers payable	\$.00	\$ 2,696.88
Payroll taxes payable		.00	370.28
TOTAL LIABILITIES		<u>\$.00</u>	<u>\$ 3,067.16</u>
Fund Balance		<u>124,685.41</u>	<u>117,292.28</u>
TOTAL LIABILITIES AND FUND BALANCE		<u>\$124,685.41</u>	<u>\$120,539.44</u>

**Summary of Arkansas State Department
of Health Activities**

Rex C. Ramsay, Jr., M.D., Director

This condensed Report relates to the programs, activities and services provided to the citizens of Arkansas during the last report year.

Credit for continued improvement of the Agency's health care programs is given to the Agency's hard working, devoted public health workers who, on so many occasions, performed beyond the line of duty. Countless unreported hours were spent counseling, working in times of crises and emergencies and assisting needy, de-

serving citizens of all ages and socio-economic levels.

A copy of the complete "Annual Report '78" can be obtained while a limited supply lasts by contacting the Division of Public Health Education, Arkansas Department of Health, 4815 West Markham Street, Little Rock, Arkansas 72201.

I. BUREAU OF MEDICAL CARE SERVICES

The Bureau of Medical Care Services provides comprehensive health care to the citizens of Arkansas. The six Divisions comprising the Bureau are Maternal and Child Health, Communicable Diseases, Nutrition Services, Social Services, Dental Health and Public Health Education.

Division of Maternal and Child Health

The Early and Periodic Screening, Diagnosis and Treatment (EPSDT) Program provided health, developmental and laboratory assessments for Medicaid-eligible children up to age 21 throughout the State. These services were performed by Health Department personnel under contractual agreement with the Department of Human Services. At the end of fiscal year 1977-1978, 24,947 children had been screened. As a result of these screenings, 10,026 children were referred for further diagnosis and/or treatment of suspected abnormal conditions.

The Hypothyroid Screening Program, initiated and operational in fiscal year 1977-1978, tested for congenital hypothyroidism (which causes mental retardation if untreated) in conjunction with the PKU Screening Program since both can utilize the same blood sample. During the year, 16,465 examinations were performed and four cases of neonatal hypothyroidism were diagnosed. When the condition positively is identified, the child is referred to the Endocrinology Clinic at the Arkansas Children's Hospital for treatment. Close follow-up is maintained by MCH personnel to ensure quality medical, nutritional and social service care.

The Arkansas Regional Perinatal Program (ARPP) continued its efforts to develop a statewide regionalized perinatal health care system. A statewide transportation system and housing for eligible maternity patients was implemented.

Educational efforts included five one-day seminars on perinatal medicine attended by 81 physicians and 193 nurses, and 13 regional obstetrical workshops attended by over 700 nurses. Since its inception, the ARPP has visited 28 hospitals, 23 public health facilities and three community health centers for introductory, evaluative or educational purposes.

Division of Communicable Diseases

All data presented, venereal disease excepted, will refer to calendar year 1977 due to the reporting system for communicable diseases.

Progress was made in improving the administrative and operational aspects of the Division. Data processing of venereal and general disease reporting programs is under way in cooperation with The Center for Disease Control in Atlanta, to prevent duplication of reports required by both organizations. The Arkansas Department of Education enforced the School Immunization Law and the number of immunizations administered over the past year more than doubled.

One of the ongoing efforts of importance has been the orientation and education of medical students, house staff and private physicians. The Director of the Tuberculosis Program continued to lecture to medical students and to conduct the coordinate chest conferences at three hospitals in Little Rock, weekly and monthly conferences in El Dorado, Texarkana, Fort Smith and Fayetteville. The full-time Venereal Disease Clinic (located at the Pulaski County Health Department) was upgraded over the past two years. Utilized for the instruction of medical students and house staff, one-half the graduating students now receive training at the Clinic. Services were expanded and medications purchased to treat all types of sexually associated diseases. The Department of Health depends on several hundred private practitioners to provide clinical services to health department clinics.

Continuing efforts were made to develop the communicable disease concept, utilizing members of the staff to investigate a broad spectrum of disease rather than restricted categories. The communicable disease nurse specialists received monthly inservice training to broaden their capabilities and knowledge of communicable disease control. They have been involved extensively in the immunization effort in addition to their regular duties.

The Immunization Program is responsible for prevention and control of childhood diseases for which immunizing agents are available. Vaccines for prevention of polio, diphtheria, tetanus, pertussis, measles and rubella were provided to every local Health Unit for use in public clinics. These same vaccines are available free of charge to any private or non-public health care provider.

Tuberculosis Program

Morbidity Trends. For the first time in modern times, the number of tuberculosis cases was under 400 for 1977, reflecting a continuing drop in the threat produced by this disease. This should produce a further improvement in our position when ranked with the other states. Arkansas was number three in the coterminous states in 1975, number five in 1976.

The hospital program is functioning well. During 1977, arrangements were made to establish contracts with Union Memorial in El Dorado, and Memorial Hospital in North Little Rock. This brought the total number of contract hospitals to 15. In these hospitals, 20 Chest Conferences for teaching and patient care were held every month. Two Chest Symposia were held at which an out-of-state guest joined the local array of talent to produce excellent meetings for post-graduate teaching. There were 992 Chest Clinics held at 70 locations in 65 counties.

Venereal Disease Program

There were 9,946 cases of venereal disease reported during this fiscal year. The total cases reported represent a decrease of 9.2 percent when compared with the previous fiscal year. The percentage differences by disease categories were: syphilis cases decreased by 11.4 percent and gonorrhea cases decreased by 9.1 percent. The decrease in syphilis was due, primarily, to fewer cases of late syphilis, a continuation of a trend begun in 1974. The decrease most likely is an indication that individuals who become infected with syphilis are receiving treatment

prior to progressing to the latter stages of the disease and is a positive measurement of the effectiveness of the syphilis effort in Arkansas.

Reported gonorrhea cases, which reached an all time high in Arkansas in fiscal year 1975-1976, declined for the second year in a row. Still, gonorrhea remains the leader among reportable communicable diseases in the State. The combination of extensive gonorrhea epidemiology, and of mass screening with modified Thayer Martin culture for asymptomatic disease in females, apparently is having an impact on the number of gonorrhea cases occurring. The decrease is evident in most sections of the State.

II. BUREAU OF CANCER AND SPECIAL SERVICES

Fiscal year 1977-78 was the first full year of operation of *The Bureau of Cancer and Special Services* which was created in March 1977.

Division of Cancer Screening

Public and Professional Education. Public health education efforts in local and regional health clinics convey information to the clinics' clientele, and to civic, school and other community groups on the benefits of screening for early detection of uterine cervical cancer and of breast self-examination. Preventive aspects of screening for other cancers and education in preventive measures also are emphasized.

Public health nurses continually are trained by physicians in those counties in which medical society approval is given for nurses to take cervical cytology screening specimens. The nurses are trained to teach breast self-examination.

The Bureau encouraged and helped with a statewide nurse in-service education program on early detection of head and neck cancer.

The Fourteenth Annual Cancer Workshop for Nurses (Theme: "Living With Cancer") was planned, conducted and evaluated in cooperation with the American Cancer Society, Arkansas Division, and the Divisions of Chronic Diseases and Public Health Nursing. Attendance at this April workshop was over 700.

Cancer Screening Program. From May 1975 through June 1978, a total of 83,127 women had cervical cytology screening and were taught breast self-examination techniques. Follow-up on the first 20 months' experience was completed. Approximately 1.8 percent of all screenings require follow-up. This is done in either the diagnostic regional colposcopy clinics, in 15 locations in the State, or obtained from private physicians' records. In addition to 331 cervical dysplasias, 228 cervical squamous cell carcinomas-in-situ and 19 invasive cervical cancers, four additional genital cancers (three vulvar squamous cell carcinoma and one adenocarcinoma of cervix) were diagnosed.

Cancer Diagnosis, Treatment and Rehabilitation. Approximately 80 percent of all patients seen in the Cancer Screening Program are medically indigent. The program provided diagnostic services for indigent patients who required follow-up. All available sources of funding are utilized in obtaining care for these patients. Limited funding is available for assisting cancer patients who need domiciliary care while undergoing treatment.

Cancer Registry

Cancer Prevalence. Hospital based cancer registries were supported in 13 hospitals in the State and in the Central Arkansas Radiation Therapy Institute. During 1977-1978, three additional registries were added. Programming of the computerized abstracts of cases is being developed in order to provide relevant trend data to the hospital registries, to give follow-up information to physicians and to study the epidemiology of cancer.

III. BUREAU OF COMMUNITY HEALTH SERVICES

Division of Chronic Diseases

The Medical Examinations for Disease Detection (M.E.D.D.) mobile unit conducted 41 four-day and 11 one-day screening clinics in local Health Units throughout the State for all persons 55 years of age and above. Services of height, weight, vision, hearing, temperature, pulse, respiration, hematocrit, urinalysis, blood pressure, Dextrostix, Pap Smear, breast self-examination, medical history and ECG, if indicated, were received by 2,050 persons. The Division Director reviewed the records of these persons screened and made 356 referrals to patients' physicians. The last two months of the past year this program was incorporated into the Adult Health Maintenance Program in the local Health Units as an ongoing clinic.

The Adult Health Maintenance Program, with active clinics in 40 counties, provided all the screening functions available through the M.E.D.D. Unit. In addition to screening and referral, Adult Health Maintenance clinics are geared toward preventive and supportive health teaching and counseling for patients. This program is open to all adults age 21 and over.

The Hypertension Program was initiated through Federal grant 314(d)(7)(b) during the fall of 1976. High blood pressure is the primary cause of more than 23,000 deaths in America each year. The disease contributes to hundreds of thousands of deaths from heart attacks and strokes because it increases susceptibility to these events, the first and third leading causes of death in this country.

The program is designed to encompass two major components. The first is aimed at the undetected hypertensive population and consists of identification and referral processes designed to get uncontrolled hypertensives to facilities where they can receive treatment. The second component of the program is designed to give long-term, supportive health care to those persons diagnosed as having hypertension and who currently are receiving medical care. This follow-up component offers the services of periodic blood pressure checks, health status evaluations, patient education, appropriate and necessary behavioral modification interventions, and intensive efforts aimed at enhanced patient compliance for those persons who enter this facet of the program under the orders of a private physician.

The Mental Health Program included services for mental health patients under certain circumstances. It provided health care for the patient with a problem in mental health by dispensing and supervising prescribed drugs (Prolixin injections particularly).

IV. BUREAU OF ENVIRONMENTAL HEALTH SERVICES

Division of Environmental Laboratories

The *Division of Environmental Laboratories* operated to provide a chemical analytical service to department users and other government agencies. Analyses were performed in six different laboratories.

The *Food Laboratory* examined foodstuffs for the presence of adulterants, foreign material, poisons and certain chemicals; examined foodstuffs to ensure identity and conformity to regulations and descriptions.

The *Water Laboratory* performed physical and/or aesthetic parameter tests: color, odor, taste, sediment and turbidity; used suitability chemical tests: reaction pH, phenolphthalein alkalinity, methyl orange alkalinity, total solids content, carbonate hardness, non-carbonate hardness, total carbonate; performed important anion quantitative chemical tests: nitrate nitrogen, nitrite nitrogen, fluoride, chloride and sulfate; did common cationic constituents quantitative chemical tests: calcium, magnesium, sodium, potassium, iron, copper and aluminum; performed "trace metal" cations quantitative chemical tests: lead, manganese, nickel, cadmium, zinc, silver, chromium, barium; performed other water supply parameter or inorganic tests; determined total hydrocarbons in water.

The *Pesticide Laboratory* routinely screened for organophosphate and organochlorine pesticides, herbicides, economic poisons and industrially important or hazardous chemicals in water, air, soil, vegetation and flesh; had quantitative ability in these cases where applicable methods and suitable standards were available or could be developed or adapted in-house; monitored volatile halogenated hydrocarbons in selected water sites; maintained an ongoing cholinesterase monitoring activity among certain groups chronically exposed to pesticides.

The *Childhood Lead Poisoning Laboratory* screened large numbers of blood specimens for elevated erythrocyte porphyrin and/or blood lead level; provided a laboratory service to hospitals and physicians treating lead intoxication by monitoring erythrocyte porphyrin and blood lead level in lead poisoning cases.

The *Emergency Toxicology Laboratory* provided a 24-hour, 7-day-per-week emergency toxicology laboratory service to qualified health care providers in Arkansas. Responses usually were delivered in two hours, or less, from the arrival of the specimen; administered the Poison Control and Drug Information State Network; provided qualitative assay for approximately 125 chemical entities commonly associated with poisoning in vomitus, blood and/or urine; provided quantitative analysis for the lower alcohols and low molecular weight volatile compounds in blood, barbiturate levels in blood, salicylate level in blood and urine, and emergency cholinesterase level in blood.

Division of Childhood Blood Lead Screening

The primary goal of the *Childhood Blood Lead Screening Program*, federally funded under Public Law 93-151, is to prevent symptomatic lead poisonings and their sequelae through early detection of children with increased lead absorption or its metabolic effects, followed by medical and environmental intervention before the child reaches the state of overt lead poisoning.

It has been found that low levels of lead can decrease

the body's ability to resist viruses and bacteria and increase the chances and severity of illness. Lead poisoning can cause serious, irreversible damage to the kidneys and central nervous system, leading to learning disabilities, mental retardation—and, in its advanced stages, to convulsions, coma and sometimes death. Moderately elevated blood levels may impair a child's learning ability and coordination. The total effects of elevated lead levels may not be known for years. The early signs of lead poisoning are very difficult to spot. Even physicians easily may mistake the various symptoms as those of other diseases. In its earliest stages, elevated lead levels may have no noticeable symptoms; therefore, screening is the only effective way to detect lead poisoning.

This program located the areas in communities which held the greatest risk for lead poisoning victims. The areas were determined by identifying the areas of poor housing conditions in which the greatest number of children under six years of age were living.

In 1977 the program screened more than 3,000 children and found five percent of those tested to have elevated lead levels. Forty-five percent of these children had lead levels high enough to require medical evaluations and five were hospitalized. In addition to the five percent with elevated lead levels, another three percent were referred for iron therapy due to anemia. Added to the great suffering this health hazard inflicts on children and their families is the economic burden on society. The cost of lifetime treatment and institutionalization of a child who incurs severe brain damage, not counting the loss of his earning power, is estimated to be \$1,260,000.

V. BUREAU OF HEALTH FACILITY SERVICES
Division of Health Facility Services

The *Medical Microbiology Program* primarily is concerned with detection of the agents of infectious and communicable diseases. Some 245,472 specimens were received for examination for syphilis, tuberculosis, gonorrhea, strep throat, salmonellosis, shigellosis and other diseases. The strep throat program for detection of the beta hemolytic streptococci remains popular with pediatricians of the State and the workload in this area increases yearly (16,193 specimens this year).

Some 70,699 specimens were examined for detection of gonorrhea; about 6.7 percent were found to contain the organism. The *Virology Section* continued to expand its program with addition of rubella screening for maternity clinics (4,569 specimens) and the examination of bird bloods for surveillance for St. Louis encephalitis (1,405 specimens). Tests for hepatitis have been made available. The *Mycobacteriology (TB) and Mycology Laboratories* examined 24,249 specimens in support of chest clinics all over the State. The role as a reference laboratory in microbiology to other laboratories in the State continued to increase.

**Report from the Arkansas Medical
Political Action Committee
W. P. Phillips, M.D., Chairman**

In terms of involvement with major state election races, 1978 may have been ARK-PAC's most

active year. The Board of Directors arranged personal interviews with most of the candidates for senate, house and major state seats. A variety of issues were discussed and support then decided by a majority of the board.

We were fortunate that the electorate agreed with the board's decision most of the time. A senator, three congressmen, a governor, and other candidates received the board's endorsement and were subsequently elected.

ARK-PAC received encouragement and assistance on a previously unprecedented scale from national headquarters. We believe that a foundation has been laid from which mutual cooperation can continue in the future.

Poor support from the general membership of the Society continues to plague your Political Action Committee. We closed the year with 28 sustaining and 272 active members out of a Society of 1,848, indicating that only 16% supported the board's efforts financially.

Although this year will not have a general election, a number of health-related initiatives are expected to reappear in Congress and the Legislature. Continuing questions about the nation's economy inject new unknowns in the health legislation equation. ARK-PAC's board of directors will be as active in this area as the membership of the Society permits.

Medical Education Foundation for Arkansas

Robert Watson, M.D., President

From the beginning, the initial concept on which this Foundation was formed has been rigidly followed; that is, to direct the full efforts of this Foundation to the betterment of medical education in Arkansas.

The combined support of the Arkansas Medical Society, together with earned investment income, and memorial contributions to the Foundation, has provided funds during the present school year to bring to the students at the Medical School six speakers of national renown to speak to the individual classes on subjects of student choosing and on a level appropriate to that specific school year. Appropriately, these lectures are presented to the students as the "State Medical Society Sponsored Series."

As this manner of presentation has progressed during the school year, the popularity of these lectures and the acceptance by the students is shown by a near "standing room only" response.

Sound management of the resources of the

Foundation and a sensible use of its funds will permit education purposes, such as that described above, to continue on safely and indefinitely.

Report of AMA Meeting

December 3-6, 1978

Chicago, Illinois

Purcell Smith, M.D., Delegate

This summary covers the more important matters considered during the 1978 Interim Meeting of the American Medical Association House of Delegates, but is not meant to be a complete report of all actions taken. The December 15, 1978, convention issue of AMERICAN MEDICAL NEWS carries more complete discussion of all House actions.

AWARDS:

The recipient of the Dr. Benjamin Rush Award for Citizenship and Community Service was Dr. Tim Lee Carter, a United States Congressman for many years from Kentucky. The Board of Trustees also honored Dr. Eugene Balthazar from Aurora, Illinois, for providing free medical care to the indigent of his community for the past six years.

REPORT OF THE AMA PRESIDENT:

President Tom Nesbitt, in his address to the House, stressed the need for unity if the Association is to carry on its fight against a ruling by a Federal Trade Commission judge that would make the Federal Government the final arbiter for the "ethical conduct of just about every citizen." He said a legal battle with the FTC might be impossible "if we ourselves become our own worst enemies by risking professional suicide over the issue of chiropractic." Such divisiveness, he said, would also threaten the AMA's ability to continue its contributions in medical education, its voluntary cost containment efforts, and its success in helping ward off potentially damaging legislation.

SUMMARY OF ACTIONS OF THE HOUSE OF DELEGATES:

There were about 200 items of business considered by the House of Delegates. The three major issues which dominated the meeting were:

1. Chiropractic and the settlement of the Pennsylvania suit brought by a chiropractor against the AMA, the Pennsylvania Medical Society, and other organizations.
2. The question of National Health Insurance and whether the AMA should cause a pro-

posal to be introduced into Congress and, if so, what would be contained in the bill.

3. The proposed revision of the Principles of Medical Ethics.

CHIROPRACTIC:

The AMA and several other organizations were sued by a Pennsylvania chiropractor and the Pennsylvania Chiropractic Society charging that there was a conspiracy to prevent chiropractors from practicing their profession as provided for by the law. After much time and legal expense, all parties have agreed to settle the suit except the Pennsylvania Radiological Society and the American College of Radiology. Two delegates at the request of four specialty organizations, filed suit against the AMA challenging the authority of the Board of Trustees to enter into a settlement agreement without concurrence by the House of Delegates. In a closed meeting, the House "acknowledged and affirmed" the authority of the Board of Trustees to settle the lawsuit. The House also called on the AMA to "continue to warn the public of the hazards to health of entrusting the diagnosis and treatment of diseases such as cancer, diabetes, malignant hypertension, cardiovascular stroke, and infections to practitioners who, in the treatment of these conditions, rely upon the theory that all disease is caused by misalignment of spinal vertebrae and can be cured by manual manipulation of the spine." The House supported the physician's right to choose whom he or she will accept as patients, and the right to exercise this choice by the terms of contractual arrangements with other physicians, medical groups, hospitals, or other institutions. It also requested the Judicial Council to reconsider Article 3.70 of Section III of *Judicial Council Opinions and Reports*. This article states that physicians may accept or decline patients sent to them by licensed limited practitioners or by laymen. It also states the role of specialists in providing information to such patients if they choose to provide services.

NATIONAL HEALTH INSURANCE:

The Association's position on National Health Insurance was once again a major topic for debate. Several resolutions and reports were considered and the House voted that the AMA sponsor legislation, if necessary, embodying these principles:

1. Requiring minimum standards of adequate

benefits in all health insurance policies sold in the United States with appropriate deductible and co-insurance.

2. A simple system of uniform benefits provided by the federal, state, and local governments for those individuals who are unfortunate enough (through no fault of their own; i.e., age, disability, financial hardship, etc.) not to be able to provide for their own medical care.
3. A nationwide program by the private insurance industry of America (and government if necessary for reinsurance) to make available catastrophic insurance coverage for those illnesses and individuals where the economic impact of a catastrophic illness could be tragic. All catastrophic coverage should have an appropriate deductible and co-insurance to make it economically feasible and to avoid abuse.
4. A program developed pursuant to these principles should be administered at the state level with national standardization through federal guidelines.

MEDICAL ETHICS:

The proposed revision of the Principles of Medical Ethics continues to receive attention from the House of Delegates. An ad hoc committee had been established at the June meeting to give the proposal more study and to present its recommendations to the House. At the Interim Meeting, the ad hoc committee reported that it was not yet prepared to make a final report and asked for authorization to continue its work for a report at the 1979 Annual Meeting. The committee was granted the additional time.

FINANCES:

The House approved a 1979 budget based on expected revenues of over \$62,000,000.00 and expected expenses of \$55,000,000.00. The Board of Trustees and the Executive Vice President were commended for their diligent and effective efforts to build and maintain the fiscal integrity of the Association.

However, the House was alerted to the approach of 1981 when, at the current level of AMA activity and projected rates of inflation, AMA expenses will begin to exceed income, barring dramatic changes in our membership rolls. Only 1,300 physicians became new full dues-paying members during 1978. A bright spot in the membership picture is the continued increase in the

number of medical students and residents who are joining AMA.

MISCELLANEOUS:

1. The House took several actions regarding efforts to restrain increases in the cost of medical care and make physicians more aware of these costs. Many of these recommendations were related to the report of the National Commission on the Cost of Medical Care and AMA President Tom Nesbitt called for voluntary restraint in physicians' fee increases.

2. The House acted on a major report from the Council on Medical Service pertaining to second surgical opinion programs. The House opposed the concept of mandatory second opinions or the imposition of financial penalties by a third party payor for not obtaining such second opinions. The House reaffirmed the right of the patient or a physician to seek a second opinion freely from any physician of his or her choice, and supported the concept that when payment is required by a third party payor for a second opinion, that second opinion should be at no cost to the patient.

Report of the

Arkansas Foundation for Medical Care

Paul C. Schaefer, Executive Director

Reduction in PSRO review costs has been mandated by the Health Standards and Quality Bureau. By the end of this fiscal year, that is September 30, 1979, the national average for PSRO review must not exceed \$8.70 per admission. Currently, in Arkansas, we are running a little over \$9.00 per admission. This must be reduced because we have been informed by the Dallas Regional Office that the \$8.70 is the national goal and will be lower in Region VI.

To this end, the Professional Review Committee of the Foundation has implemented a focusing out program. This program was dictated based on the fact that if review costs must be reduced, and that is review costs both in hospitals and the PSRO, then there must be some reduction of work load, specifically in the hospital setting. We could not ask hospitals to reduce their costs and not offset this with decreased paperwork.

The major principle of this program adheres to the policy of the Foundation that this is a peer review program and physicians will be the ones reviewing other physicians.

On a phased in basis, hospitals and their medical staffs will be asked to submit recommendations of those physicians who could be focused out. That is, their patterns of practice would not be affected by the elimination of PSRO review.

Profiles of recommended physicians are applied against criteria and those that meet the criteria are approved. Those that do not meet the criteria are resubmitted to the hospital for either justification or possible withdrawal. A final determination then on these questioned cases is made by the Professional Review Committee of the AFMC.

Focusing out does not mean physicians will not be reviewed. It simply changes the methodology of review. Instead of being under 100% concurrent review then in the hospital, that physician will be monitored through data analysis.

It is our hope that once this program is completely phased in that concurrent review will only be taking place in problem areas, or where there needs to be intensification of review.

For those patients still under concurrent review, a new review mechanism has been developed by the Professional Review Committee. This new process is called Cyclic Review. This approach to review is based on objective evidence of the symptoms of illness and the management provided to treat the symptoms. The primary benefit of this new review process is that it requires physician advisor input only where necessary. Under the past review program of the AFMC, the physician advisor had to get involved after an arbitrary date whether the patient was obviously sick or not. This brought many criticisms that there was not effective utilization of the physician advisor.

This system is being implemented at the current time. As with any change, we anticipated and have seen a number of problems, but on the whole we believe that this approach will be a more effective and efficient way to perform review.

One of the primary long range goals of the Foundation is to eliminate unnecessary reviews and to utilize the resources available to us to attack either problem or potential problem areas. In this regard the Foundation is gradually moving away from concern about the process of review to looking at results or impact. This can be done through sophisticated data analysis, and then providing information back to the hospitals

and their medical staffs, so that we as a Foundation function as a catalyst in identifying areas where special studies need to be directed.

We have recently employed as a Director of Information Systems, Dr. Russ Brasher. Russ comes to us with an extensive background in mathematics and statistical analysis. We are beginning to prepare information such as the data information submitted to you with the agenda. This helps to identify for us where we as a PSRO should be involved.

I would like to call to your attention the high admission rate for Medicare patients in Arkansas. We not only ranked twenty percent above the national average, but we are the seventh highest PSRO in the country. The Foundation has put so much emphasis on length of stay and has, in fact, reduced length of stay, that we might be a part of the cause for the rise in admission rates. In other words, hospitals with very short length of stays may be discharging their patients too quickly, and then they are having to return later. To this extent, we will be trying to find out why this high admission rate is occurring and we will be looking specifically at hospitals with high readmission rates and hospitals with low length of stays. We may be able to do something here which truly can have an effect on the quality of care delivered in Arkansas hospitals.

As you can see, many changes are occurring. We hope that with these changes comes more flexibility so that we as a PSRO can truly have impact on the quality of care and the utilization of services and items. As with a good medical care evaluation study, we are moving away from our concern with the process of review and looking at the outcome.

Another aspect of the Arkansas Foundation for Medical Care is our contractual relations with the Department of Health, Education and Welfare. During recent negotiations with the Department, the AFMC Board of Directors was forced to relinquish its claim to control of the operations of the Foundation (PSRO).

The renewal of the contract to continue operating the PSRO hinged on AFMC accepting continuation of a provision in the contract giving H.E.W. the right to approve or disapprove replacements for the two top positions — Executive Director and Medical Director. Thus, when Dr. Long or Mr. Schaefer vacate their positions, H.E.W. will be able to assure themselves that the position will be filled by someone with a philosophy sympathetic to H.E.W. views and subservient to H.E.W. bureaucrats.

The Board contended that such control was not indicated in the law, that it was dictatorial, arrogant and that it interfered with the Board's right to govern the affairs of the Foundation. H.E.W. maintained it had the right to judge our employees since "it is our money."

Senator Bumpers' office tried without success to get the provision removed but H.E.W. was adamant.

When a United States Senator cannot influence H.E.W. to change such an unnecessary and oppressive measure, it is an ominous indication of what has happened to representative government.

All approaches to H.E.W. have been exhausted. The only hope left is continue pressure through our Congressmen and Senators.

If you agree that the provision is unnecessary and undesirable, please write your Congressman and Senator.



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April, 1979

THE JOURNAL OF THE *Arkansas* MEDICAL SOCIETY

Vol. 75 No. 11

FORT SMITH, ARKANSAS

103RD ANNUAL SESSION
ARKANSAS MEDICAL SOCIETY
LITTLE ROCK CONVENTION CENTER, APRIL 22-25, 1979

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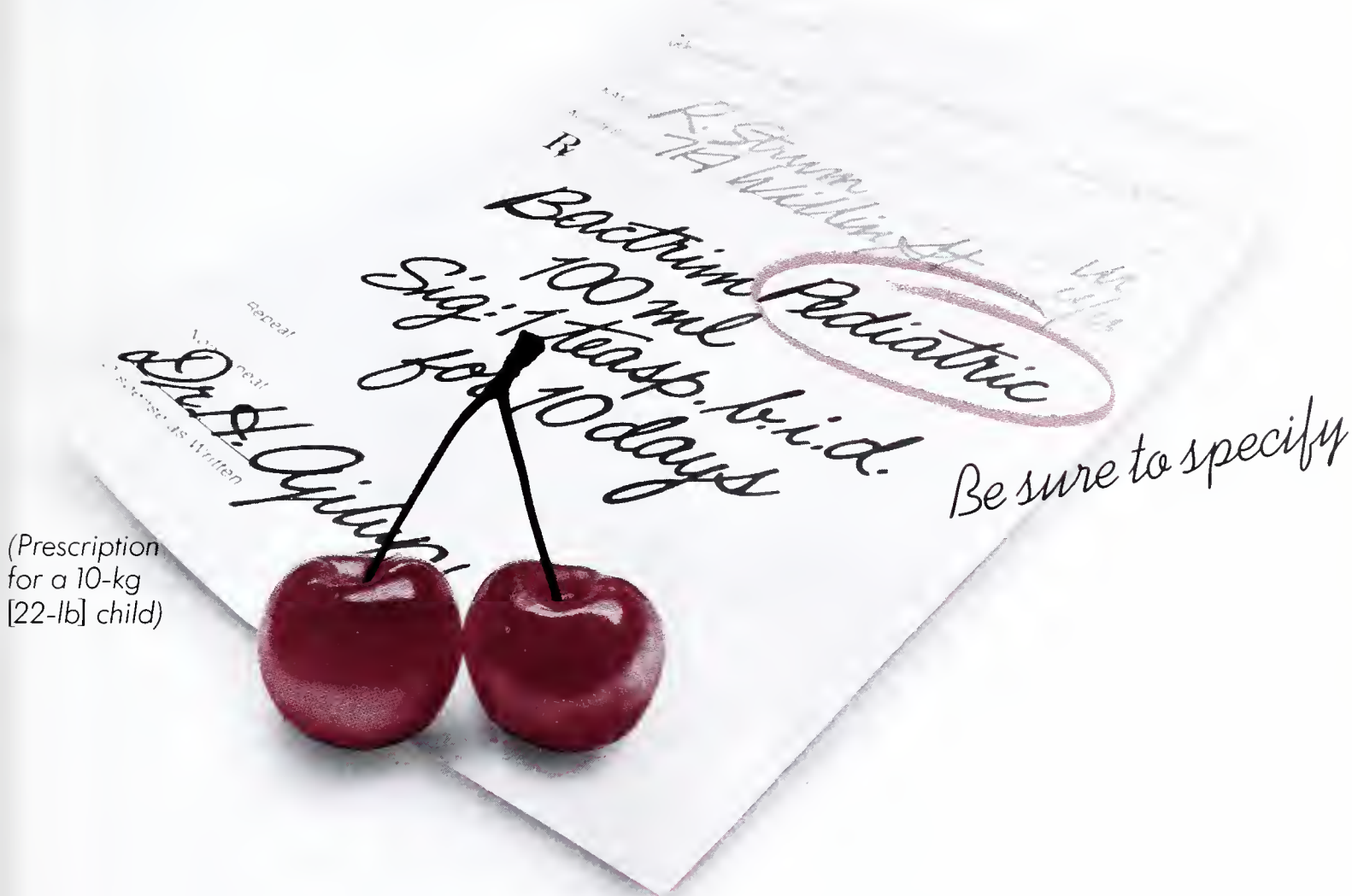
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Precautions: Use cautiously in patients with impaired renal or hepatic function, possible folate deficiency, severe allergy or bronchial asthma. In patients with glucose-6-phosphate dehydrogenase deficiency hemolysis, frequently dose-related, may occur. During therapy, maintain adequate fluid intake and perform frequent urinalyses, with careful microscopic examination, and renal function tests, particularly where there is impaired renal function. Bactrim may prolong prothrombin time in those receiving warfarin; reassess coagulation time when administering Bactrim to these patients.

Adverse Reactions: All major reactions to sulfonamides and trimethoprim are included, even if not reported with Bactrim. *Blood dyscrasias:* Agranulocytosis, aplastic anemia, megaloblastic anemia, thrombopenia, leukopenia, hemolytic anemia, purpura, hypoprothrombinemia and methemoglobinemia. *Allergic reactions:* Erythema multiforme, Stevens-Johnson syndrome, generalized skin eruptions, epidermal necrolysis, urticaria, serum sickness, pruritus, exfoliative dermatitis, anaphylactoid reactions, periorbital edema, conjunctival and scleral injection, photosensitization, arthralgia and allergic myocarditis. *Gastrointestinal reactions:* Glossitis, stomatitis, nausea, emesis, abdominal pains, hepatitis, diarrhea and pancreatitis. *CNS reactions:* Headache, peripheral neuritis, mental depression, convulsions, ataxia, hallucinations, tinnitus, vertigo, insomnia, apathy, fatigue, muscle weakness and nervousness. *Miscellaneous reactions:* Drug fever, chills, toxic nephrosis with oliguria and anuria, periarteritis nodosa and L.E. phenomenon. Due to certain chemical similarities to some goitrogens, diuretics (acetazolamide, thiazides) and oral hypoglycemic agents, sulfonamides have caused rare instances of goiter production, diuresis and hypoglycemia in patients, cross-sensitivity with these agents may exist. In rats, long-term therapy with sulfonamides has produced thyroid malignancies.

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Children: Recommended dosage for children with urinary tract infections or acute otitis media—8 mg/kg trimethoprim and 40 mg/kg sulfamethoxazole per 24 hours, in two divided doses for 10 days. Use identical daily dosage for 5 days for shigellosis. A guide follows. Children two months of age or older

Weight		Dose—every 12 hours	
lbs	kgs	Teaspoonfuls	Tablets
22	10	1 teasp. (5 ml)	½ tablet
44	20	2 teasp. (10 ml)	1 tablet
66	30	3 teasp. (15 ml)	1½ tablets
88	40	4 teasp. (20 ml)	2 tablets or 1 DS tablet

For patients with renal impairment

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15-30	½ the usual regimen
Below 15	Use not recommended

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Supplied: Double Strength (DS) tablets, each containing 160 mg trimethoprim and 800 mg sulfamethoxazole, bottles of 100, Tel-E-Dose[®] packages of 100, Prescription Paks of 20. Tablets, each containing 80 mg trimethoprim and 400 mg sulfamethoxazole—bottles of 100 and 500, Tel-E-Dose[®] packages of 100, Prescription Paks of 40, available singly and in trays of 10. Pediatric Suspension, containing in each teaspoonful (5 ml) the equivalent of 40 mg trimethoprim and 200 mg sulfamethoxazole, cherry flavored—bottles of 16 oz (1 pint). Suspension, containing in each teaspoonful (5 ml) the equivalent of 40 mg trimethoprim and 200 mg sulfamethoxazole, fruit-licorice flavored—bottles of 16 oz (1 pint).

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| April 19-22 | Missouri State Medical Association
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| April 20-22 | Georgia Medical Association
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| April 21-22 | Iowa Medical Society
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Large Bowel Cancer

E. Clinton, Texter, Jr., M.D.,* Carol Mitchell, Ph.D.,**
Harry J. Jordan, Jr., M.D.,*** and Carol J. Hogue, Ph.D.****

Introduction

Large bowel cancer is the most common internal cancer in the U.S.A. The Third National Cancer Survey (1969-1971)¹ revealed that in the United States, colorectal cancer has a one-in-twenty to one-in-thirty chance of striking an individual sometime in his or her lifetime. Annually there are about 100,000 newly diagnosed cases and about one-half as many deaths. In 1976, 15% of all cancer deaths in females and 12% in males were attributable to colorectal cancer.²

By the time symptoms are present, most bowel cancers have spread beyond the bowel wall and the 5-year survival is less than 40%.³ When bowel cancer or precancerous adenomatous polyps are detected before symptoms occur, the survival rate approaches 90%.³

Epidemiology of Colorectal Cancer

Almost all colorectal cancers are adenocarcinomas with similar histologic type throughout the colon, rectosigmoid junction and rectum. Histological subgroups of adenocarcinoma are found in varying proportions in different studies, however, and have different demographic characteristics. Mucin-producing adenocarcinomas are also related to poor survival.⁴

The etiology of colorectal cancer is unknown, but certain epidemiologic features point to current etiologic hypotheses. One such clue is the differing epidemiology of colon versus rectal cancers.⁵ In groups of individuals with overall low incidence, rectal cancer is proportionately higher than in groups of individuals at high risk

of colorectal cancer. This is true when comparing rates among countries, among geographic regions of the United States, and in Connecticut, it was true historically from 1940 through 1973.⁶ Rectal cancer mortality in the United States is declining, but colon cancer mortality is increasing except among white females. Mortality is not incidence, however, and survival factors may account for some of these differentials. But assuming that the mortality rates are an accurate reflection of incidence, they suggest that an environmental factor influences sigmoid cancers, first among men and then women. This environmental factor occurs over a long period of time, and as exposure to it intensifies, there is an increase in cancer of the caecum and ascending colon.⁷ This trend is more marked in men. The clinical significance of these trends is that the percentage of colorectal cancers capable of being detected by digital examination in the office has declined. Therefore, better screening and diagnostic procedures must be developed to discern these lesions.

What etiologic factor or factors are accounting for these changes? We know that whatever they are, they are differentially distributed geographically. For instance, the southern tier of states has a much lower mortality rate from the disease than the northeastern states. Arkansas' death rate ranks well below the national average (Table 1).

Relationship of Large Bowel Cancer to Dietary Intake

Geographical distribution of large bowel cancer shows a direct and constant relationship to economic development and modern western culture. This indicates that the prevalent difference observed may be a result of man-made environmental changes. Diet is frequently suggested as

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an important etiological factor in large bowel cancer.^{9,10} One reason is that the quantity and quality of food ingested largely determines the nature of feces, and fecal content is by far the most important factor in determining the environment of bowel mucosa.¹¹

The dietary factors that have been most frequently cited as being associated with a high risk of colorectal cancer are high fat consumption, high meat consumption, and low fiber consumption. These dietary components are closely correlated because a high proportion of our dietary fat is derived from meat, and a diet from which a high percent of its calories comes from fat will usually be low in fiber-containing carbohydrates.

Case-controlled studies of the etiology of colorectal cancer have not produced similar clear-cut results. Wynder, et al,^{9,12} concluded that their results indicated a role for dietary fat. Haenszel, et al,¹³ have shown in the Hawaiian studies a positive correlation between colon cancer and meat and legume consumption. The large-scale metabolic epidemiological studies by Hill, et al,¹⁴ and similar studies by Reddy and Wynder¹⁵ have also indicated the role of high fat consumption. These findings were based on per capita consumptions of meat and fat, not on

rural African communities. This is a population who eats a high fiber, low fat, low protein diet and who has no diagnosed cancer of the bowel. Of the population groups within western communities showing lower than expected rates of colorectal cancer, vegetarians consume less fat and more fiber than is general in westernized communities, pass larger stools and have shorter intestinal transit times.¹⁷

Rural Finns have a comparable fat intake but a much greater fiber intake than residents of Copenhagen, who have a fourfold greater prevalence of colorectal cancer.¹⁸ In case-control studies in Israel, Modan, et al,¹⁹ found that patients who consumed no fiber or only small amounts had a higher incidence of bowel cancer than those with a high fiber consumption. They did not find significant difference in fat intake.

A recent case-control study by Graham, et al,²⁰ showed no increase in risk of colon cancer regardless of the amounts of beef or other meats ingested. They did find an increase in risk with decreases in the frequency with which vegetables were eaten, especially cabbage, brussel sprouts and broccoli, but they failed to measure fiber content of the diet.

In summary, the facts that age and geographic location are strongly associated with colorectal cancer indicate an environmental influence occurring throughout life. What this factor is does appear to be related to geographic location, but that does not isolate dietary difference as the only possible cause. To progress in knowledge of the etiology of this disease, we must conduct carefully designed prospective studies of a large enough sample of individuals, whose dietary habits and other suspected risk factors are measured.

Environmental Basis for Colon Cancer

John Cairns of the Mill Hill Imperial Cancer Laboratories, England, wrote, "Almost all cancers appear to be caused by exposure to factors in the environment. The most promising approach to the control of the disease is to identify those factors and eliminate them."²¹

Certain facts are known as follows: 1) The environment of the large bowel consists of food residues, complex chemicals (bile acids) and the microflora; 2) adenomatous polyps have been shown to be the precursor lesion of the usual types of colorectal cancer; 3) adenomatous polyps are rare and large bowel cancer unknown in the South African Bantu, who consume a high fiber,

Table 1
Age-Adjusted Colorectal Cancer Mortality
In Arkansas, 1950-1969

	LARGE INTESTINE			
	Death Rate per 100,000 Pop.			
	White Male	White Female	Black Male	Black Female
United States	16.54	16.25	12.07	12.69
Arkansas	10.46	11.63	9.47	9.02
Arkansas as % of U.S.	63.2	71.6	78.5	71.1
	RECTUM			
	Death Rate per 100,000 Pop.			
	White Male	White Female	Black Male	Black Female
United States	7.65	4.82	5.68	4.46
Arkansas	3.11	2.93	3.37	3.11
Arkansas as % of U.S.	40.7	60.8	59.3	69.7

Source: *U.S. Cancer Mortality By County: 1950-1969*. U.S. Dept. of Health, Education, and Welfare, Public Health Service, National Institutes of Health, DHEW Publication No. (NIH) 74-615.

examinations of the diets of patients and controls.

Burkitt¹⁶ has emphasized that the fiber content of the diet may act as a protective factor against colorectal cancer based on his studies of

low meat diet; 4) the level of fecal dehydroxycholic acid correlates directly with the incidence of cancer of the colon, as does the per capita consumption of meat; 5) bran or mucilage from psyllium seed converts colonic dehydroxycholic acid (a mild carcinogen) to the primary bile acid, chenodeoxycholic acid, which is not carcinogenic;²² 6) both total fecal bile acids (also deoxycholic acid) and nuclear dehydrogenating *Clostridia paraputrificum* are markedly elevated in patients with large bowel cancer as compared with normal subjects;¹⁴ and 7) two nuclear dehydrogenases have been isolated and characterized from *Clostridia paraputrificum* which can convert deoxycholic acid in the bowel lumen to 20 methylcholanthrene.²³ The hypothesis that deoxycholic acid when converted to 20 methylcholanthrene in the bowel is the environment agent (B) of Hill and Morson²⁴ that promotes growth of small adenomas to large adenomas and eventually to cancer needs to be proven or disproven.

These observations suggest that there is an interaction between dietary residues high in fiber or starchy vegetables, fecal bile acids and fecal microflora in the causation of cancer. Further support is provided from the studies of carcinogenesis in experimental animals as follows: 1) Cycasin, a known colon carcinogen, does not produce cancer in germ-free rodents; 2) intra-rectal instillation of bile acids enhance the carcinogenesis of the carcinogen N-methyl N'-nitro-N-nitrosoquanidine (MNNG) but do not induce tumors when used alone; 3) deoxycholic acid enhances the carcinogen effect of MNNG in germ-free rats; and 4) a high-fiber diet significantly reduces the risk of cancer developing in rats given known carcinogens.²⁵

Dietary fiber and starchy vegetables (plantain, rice, yuca, mandioca) constitute the major dietary intake in countries where the risk of colon cancer is low and, therefore, this diet may be protective.²⁶ The biochemistry is complex, but the possible protective effect could be mediated because of cation exchange actions, reduction in fecal pH, biologic sieving, known anti-toxic effects or its capability to bind bile acids and bacteria. Further study is needed.

Screening for Colorectal Cancer

The five-year survival rate for colorectal cancer has remained remarkably constant for the past 25 years despite significant advances in surgical techniques and chemotherapy for other

malignancies. Five-year survival seems clearly related to the stage of invasion of the colorectal cancer at the time of diagnosis. Therefore, the need is to identify an efficient and cost effective method to screen those people who are at risk in order to diagnose the disease at an early stage.

Gilbertsen has shown that with annual proctosigmoidoscopy the incidence of rectal cancer can be significantly reduced, but this method leaves the remainder of the colon not screened. Proctosigmoidoscopy is both uncomfortable to the patient and prohibitively expensive when applied as a mass screening technique. Colonoscopy and barium enema are both high yield procedures but are not applicable to mass screening because of the expense and time required to perform these tests.³

Standard methods to detect fecal occult blood such as Hematest or bench guaiac have been disappointing in the past because of the high false positive rate. Greigor has popularized the use of the impregnated guaiac slide and stabilized reagent (Hemoccult).²⁷ He recommended using six slides on a three-day period, testing two slides per stool specimen on a meat-free, high-bulk diet. Abstinence from meat prevents false positive reactions and high-bulk encourages bleeding from any lesion present in the colon to reduce false negative results. With this method, one percent false positives have been reported.

Both Gilbertsen and Winawer have screened large groups of asymptomatic individuals, over 40 years old. One to two percent of those screened have had at least one of six Hemoccult slides positive for occult blood. On subsequent evaluation including rectal examination, proctosigmoidoscopy, air contrast barium enema and colonoscopy, 12% were found to have colon cancer and 38% adenomatous or villous polyps. These cancers detected were almost always localized to the bowel wall (Dukes A or B) and potentially had five-year survivals of 70% or better.³

On the basis of these pilot studies, the Arkansas Extension Homemakers Council, county councils and local clubs, with the Arkansas Division of the American Cancer Society, and the Division of Gastroenterology, Department of Medicine, University of Arkansas for Medical Sciences have undertaken a screening project for colorectal cancer in Arkansas.

Extension Homemakers Clubs are local organized groups through which home economics

and related educational activities are conducted by the Arkansas Cooperative Extension Service. The Family + 2 project is being conducted through the Health Committee of the Arkansas Extension Homemakers Council. The Council sponsors other projects designed to improve individual, family and community living.

The Hemoccult II guaiac test, breast self-examination and Pap smear make up the Family + 2 Program of the Arkansas Extension Homemakers Council. This program is designed to educate and motivate Extension Homemakers Club members' families plus two friends of the club member who are over 40 to participate in the occult blood test, as well as breast self-examination and Pap smear when indicated. Each participant mailing a Hemoccult II slide test to the Division of Gastroenterology will be notified by letter that his or her test was positive or negative. Should the results be positive, each person will be encouraged to see his or her family physician to arrange further testing including rectal examination, proctosigmoidoscopy, air-contrast barium enema, and colonoscopy.

It is hoped that screening for colorectal cancer with the Hemoccult II slide will result in earlier detection and prolonged survival in this potentially curable malignancy.

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Adult Scoliosis

L. Mercer McKinley, M.A., M.B., B.Ch.*

Abstract

Efficient and effective treatment is available for adults with scoliosis and optimal management is achieved by the early recognition of the problem during adolescence. The development of symptoms might be prevented by maintaining normal body weight and by daily muscle strengthening exercises and spine flexibility exercises. Once symptoms have developed, conservative treatment may afford relief and induce remissions. Surgery, however, is often indicated to obtain correction, stabilize the spine, and relieve pain.

Scoliosis is not only a problem of young people. (Figure 1) More and more adults with neglected spinal deformity come for treatment with deformities which have been previously undiagnosed, untreated, or inadequately treated during childhood or adolescence. Curvatures do progress after skeletal maturity. Scoliosis in the

adult decreases longevity for some patients, but affects the quality of life in all.⁵ In a review of one hundred and twelve (112) adult patients who had scoliosis, eighty percent complained of pain in the back which occasionally was very severe. The remainder complained of deformities such as a prominent rib hump or kyphos, which they found was either cosmetically unsatisfactory or painful when resting against the back of a chair. The etiology of the deformity is similar to adolescent scoliosis. Idiopathic curves were the most common, (sixty-six percent of the patients). Sixty percent presented before the age of thirty years. Eighty percent of the patients had scoliosis, fifteen percent had kyphoscoliosis, and five percent had kyphosis. Twenty-four of the seventy-four patients who had idiopathic scoliosis, believed that their deformity had increased during adult life. Only ten of these had x-rays taken at the time of skeletal maturity, and their average curve was forty-four degrees, in six years it had progressed to sixty degrees or more. One individual had a forty-five degree curve which had progressed to ninety-five degrees in thirteen years. (Figure 2a, b, c) Forty-seven percent of those examined showed that the spine was decompensated (leaning to one side) by an average of three centimeters. This lack of symmetrical balance of the head and shoulders over the pelvis puts an excessive strain on the discs in the lower lumbar spine. The asymmetrical loading causes pain and contributes to an increase in the curve. With kyphoscoliosis, paresis or paralysis of the lower extremities, bladder and bowels can occur due to spinal cord compression. In these cases, neurological deficit may be the presenting sign.

Treatment and Management

Conservative therapy was attempted in all those who initially complained of pain in the back. Treatment included analgesics, bedrest, bedrest with traction, spinal mobility exercises, orthotics or plaster body jackets, local heat or ultrasound. Thirty percent of the patients treated in this way gained lasting symptomatic relief. Many obtained temporary relief, but later required more elaborate treatment such as progression from analgesics to an orthosis. Twenty percent of the conservatively treated group came to surgery. There appears to be no way to predict

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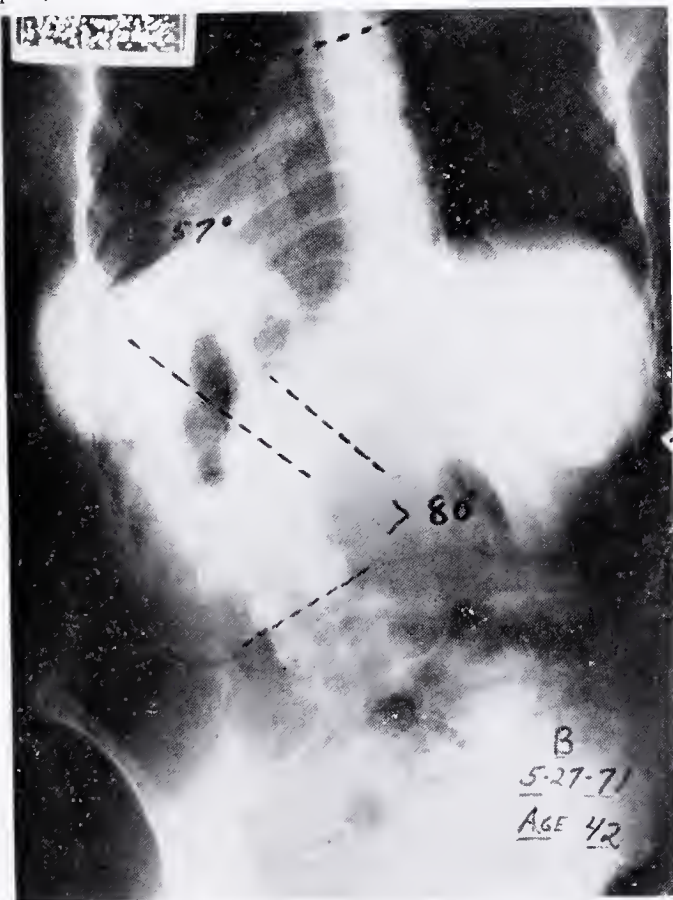


Figure 1.

57° Right thoracic and 80° left lumbar scoliosis in a 42-year-old lady.

which patient will not respond to conservative treatment. Patients with scoliosis are obliged to do their scoliosis exercises daily for the rest of their lives,³ to maintain good muscle tone, and flexibility in their spine. However, even this may not ensure that symptoms or progression of the curve will not occur. For those who had previous scoliosis surgery, those who presented with severe deformity of their backs or for those who did not respond to conservative therapy, surgical intervention was recommended.

The Surgical Treatment of Adult Scoliosis

In the previously unoperated patients, scoliotic deformities were quite rigid, and measures to increase flexibility were necessary. Prior to surgery, preliminary halo-femoral traction was used in four cases where the curves exceeded eighty degrees. In six cases, posterior osteotomy was performed before posterior instrumentation and fusion, and in two cases, two stage spinal reconstruction with anterior vertebral body resection, posterior instrumentation and fusion was necessary. The results of the surgical treatment are comparable to those of adolescent scoliosis,^{1,2,4} however, Ponder, et al,⁶ showed that blood loss

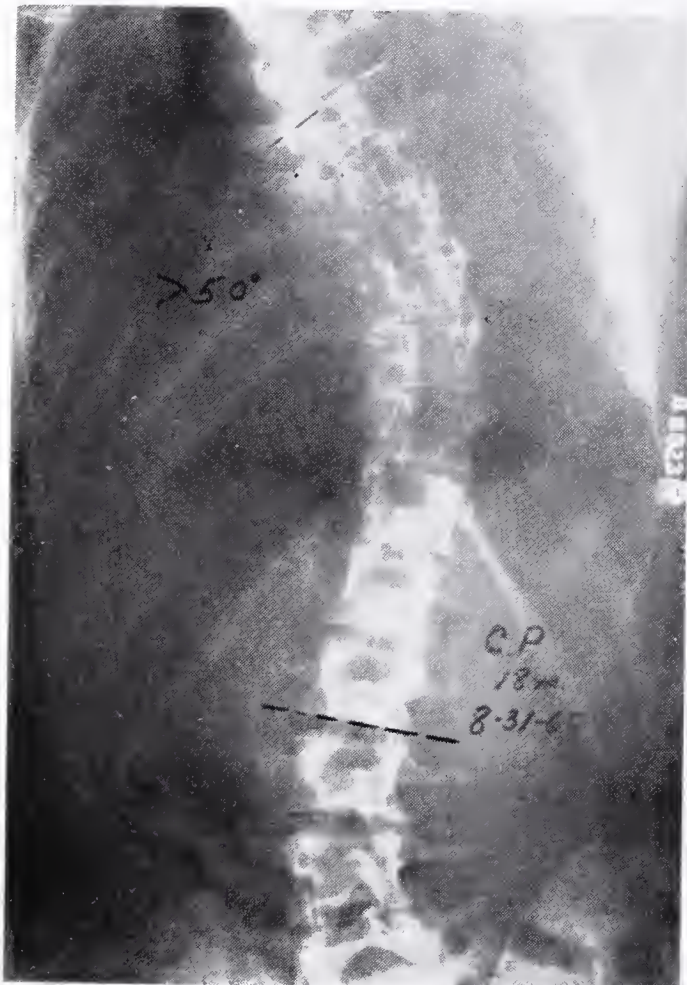
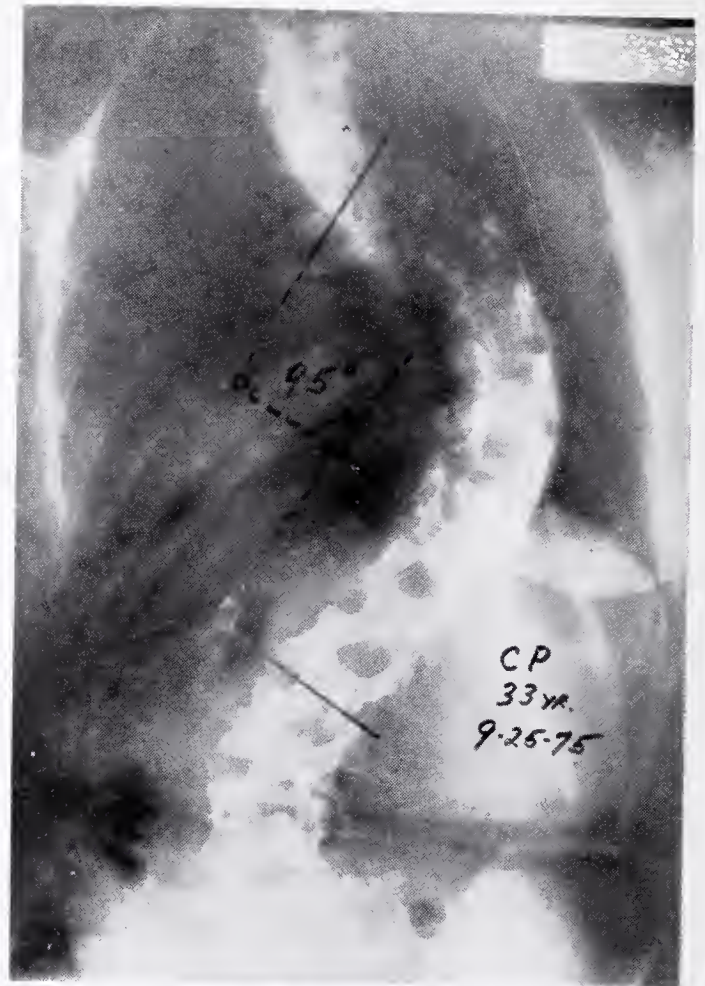


Figure 2a, b, c.

Shows the progression of a 50° thoracic lumbar scoliosis over 15 years satisfactorily corrected by Harrington rods and post spinal fusion.

and pseudoarthrosis rates are greater in adults. We did not find this to be the case in this series. Those patients who had previous scoliosis fusions had had a lower incidence of successful results. In all patients the mean correction was forty-five percent of the preoperative curve. There were no surgical complications in the previously idiopathic patients. However, in those who had neuromuscular or paralytic scoliosis, complications occurred. One patient lost ten degrees of correction and another developed pseudoarthrosis on two separate occasions, each was refused. In one patient a bursa formed over the rod treated by rod removal. One case did not respond to halo-femoral traction, and a two-stage anterior vertebral body resection and posterior instrumentation was required to correct the deformity.⁷ One patient with a forty-eight degree thoracic scoliosis had previously undergone two unsuccessful intercostal nerve neurectomies to obtain relief from intractable pain. However, posterior spinal fusion and Harrington instrumentation produced lasting relief of pain and good correction of the deformity. In ten percent of the patients who had previous scoliotic surgical procedures, the pain was usually directly ascribable to the previous surgery. Five had pseudoarthrosis; two had rod bursae. In two the correction had been lost and the deformity was progressing. The average correction in this group was only twenty-two percent of the original curve, and the complication rate was much higher, twenty percent in this series of only ten patients. Two developed pseudoarthrosis and required refusion.

Summary

Efficient and effective treatment is available for scoliosis in adults. The asymmetric spinal

column is vulnerable to trauma or loads placed upon it by the activities of daily living. Pain and deformity may occur in patients who have fixed or flexible curves, and surgical procedures produce excellent results when conservative treatment is ineffectual. Scoliosis fusions have been performed on patients in their sixties, however, the mean age of operative scoliosis in this group was forties.² However, the majority of patients present in their twenties or thirties.

Curves in adults are much less flexible than in adolescents and therefore the percentage of correction is greatly diminished as compared to the adolescent. Occasionally these rigid spines may require preliminary skeletal traction to increase flexibility on two-stage anterior vertebral body resection and posterior instrumentation are occasionally necessary. Complications are higher in the group who had previously undergone surgery for their scoliosis.

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Radiology in Arkansas The University Years

Max L. Baker, Ph.D.*

In the winter of 1895, in Wurzburg, Germany, a physicist, Wilhelm Conrad Roentgen, was conducting experiments with cathode rays. Through these experiments, the X-ray came into the world. Roentgen's monumental discoveries took place in November and December of 1895. The work was published by Roentgen in the *Proceedings of the Physical-Medical Society* of Wurzburg on December 28, 1895.

By January 6, 1896, the *New York Sun* had made the announcement of the discovery in this country, and on January 7, the *St. Louis Post-Dispatch* announced Roentgen's discovery to mid-America. In Arkansas, little note appears to have been taken of the discovery. The *Arkansas Gazette* in these days of discovery, makes no mention of Roentgen or his work, although other news of Germany is reported. (The *Arkansas Democrat* files of these dates are missing.)

As a scientific discovery, Roentgen's efforts were reported to central Arkansas through the *Arkansas Echo*. On Friday, February 21, 1896, the newspaper published an article describing Roentgen's studies, and those of his colleague in Germany. A drawing of Roentgen accompanied the article. Unfortunately for most Arkansans, the *Arkansas Echo* was printed in the German language, and thus the discovery was unknown to a large part of the population.

Even though the discovery of X-rays seems to have gone largely unnoticed in the news, the word rapidly became a part of the vocabulary. In an advertisement for a patent medicine, Warner's Safe Cure, the X-ray is described as an "astounding discovery, one of the most marvelous of the present age." The advertisement goes on to say that people don't need to look inside themselves to know something is wrong. And a statement in an *Arkansas Gazette* editorial on 12 March 1896 says "Not even the X-ray can reveal the opinion of a Republican on the financial question." By late March of 1896, some three months after its discovery, almost daily mention of the X-ray was appearing in the local newspaper. Most of these were not of a scientific nature but were of a

vocabulary usage. There were some scientific reports however.

Lesh, in her history of medicine in northwestern Arkansas, reports that Dean Gladsen, professor of engineering at the University of Arkansas at Fayetteville, was making X-ray pictures of broken bones as early as 1896. Incidentally, Gladsen later developed malignancies of his hands from over exposure to radiation, as did many of the early workers.

The first mention of the X-ray in the *Journal of the Arkansas Medical Society* appeared in the January 1897 issue. There is an article in that issue of the *Journal* entitled "Roentgen Rays and Gynecology." The article is a short review of the status of the X-ray in gynecology as compiled from other literature sources. The article does not appear to be of local origin. The *Journal of the Arkansas Medical Society* was not published from July 1896 to December 1896, the prime time for reports on the discoveries involving the beginnings of radiology.

In these years of discovery the X-ray was still very much a curiosity, and often was associated with electricity in the medical practice. In the *Transactions of the Arkansas Medical Society* of 1905, Dr. D. T. Stanley of Little Rock published an article entitled "Electricity as a Therapeutic Agent." In this article he wrote of the various applications of electricity including the "X-ray light."

Dr. James L. Dibrell is identified as a lecturer and instructor in electrotherapeutics, X-ray therapy and dermatology in the faculty roster for the October, 1906, session of the School of Medicine (Figure 1). This is the first mention of the X-ray associated with the school. In the same issue of the *Journal of the Arkansas Medical Society* that lists this faculty, there is a notice of the annual meeting of the American Roentgen Ray Society for 1906.

The 33rd annual announcement (1911-1912) and catalog of the Departments of Medicine and Pharmacy of the University of Arkansas lists training in electrotherapeutics and Roentgenology. The faculty in electrotherapeutics and

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Figure 1.
James L. Dibrell, M.D.

Roentgenology at this time was A. M. Zell, M.D., and L. D. Regan, M.D.

The training in electrotherapeutics and Roentgenology was provided in the fourth year of the medical program, for one hour per week. The course description was "The advanced student in medicine is taught in this branch the physics of electricity, and the electrical appliances for creating energy. He will be trained in the physiological action of the various currents and their therapeutic values, also electro-diagnosis and the application of various forms of electricity in diseased conditions."

The 1911-1912 catalog of the school identified Dr. Zell as a lecturer on electrotherapeutics and Mr. Homer Scott as an assistant in electrotherapeutics. In this catalog, "department" was used as a heading for the first time. Electrotherapeutics, at this time, was part of the Department of Materia Medica, Pharmacology and Therapeutics.

Dr. Zell remained as the primary faculty member in electrotherapeutics through the 1917 session. From that time he no longer appeared on

the faculty roster, though he remained very active in central Arkansas medical circles. Augustus M. Zell was born in Wuertenberg, Germany in 1882, but educated in American institutions (Figure 2). He was a 1905 graduate of Washington University School of Medicine in St. Louis. He practiced medicine in that city before moving to Little Rock. The records of the Pulaski County Medical Society indicate that Dr. Zell was an active member of that group by 1907, and Vice President of the Society in 1914. He first taught at the school as an assistant to the chair of pathology in July of 1907, moving on to electrotherapeutics in 1911. He presented several papers in the use of the X-ray over a period of years, from this date.

Dr. Zell was a member of the medical firm of Scarborough, Ogden, Zell and Judd. This group, along with Dr. R. B. Moore, erected Trinity Hospital in 1924. Trinity Hospital and Clinic pioneered the prepayment medical plan in Arkansas. These plans later developed into the medical insurance plans of today. Interestingly, Dr. Zell and his colleagues were initially censured

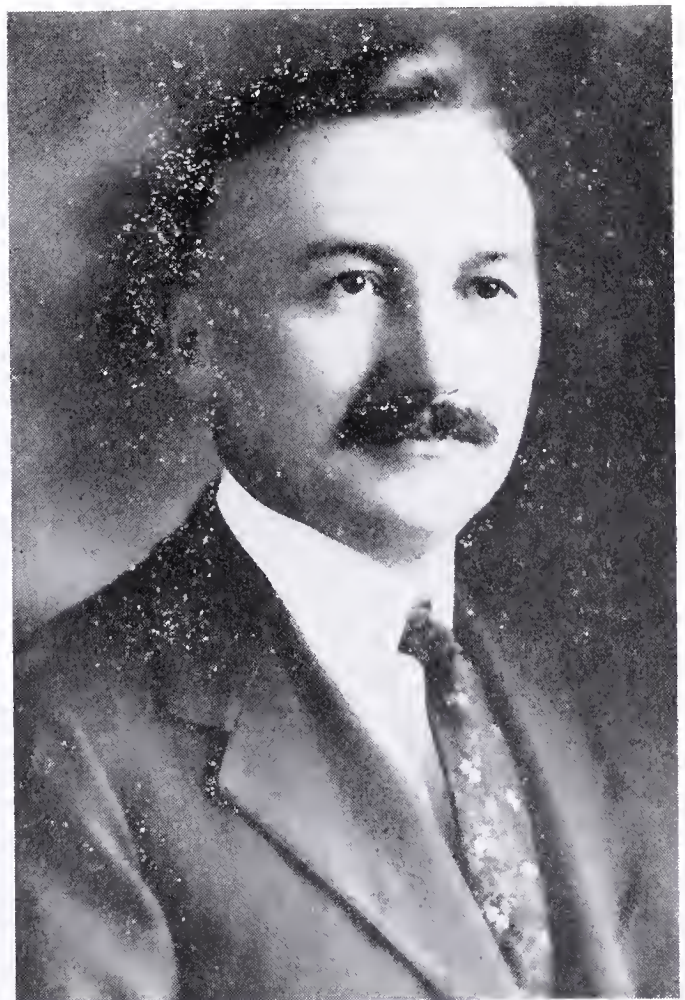


Figure 2.
Augustus M. Zell, M.D.

by members of the local medical community for this work.

In this time of its development, as with the other specialities, it is difficult to separate the private practice of radiology from the clinical practice associated with the School of Medicine. The advertisements in the *Journal of the Arkansas Medical Society* indicate an active practice of radiology in the central Arkansas region. Diagnostic radiology as well as X-ray therapy and radium therapy were actively practiced in the area.

Mumey, in his book, describes the problems of early radium implant usage. "One time a member of the faculty and hospital staff lost five thousand dollars worth of radium which he had inserted into the vagina of a patient. She went to the bathroom, used the toilet, and the pack with radium fell into the sewer. Plumbers were called and they tore up the plumbing looking for the radium which was never found. The newspapers carried the story of the loss in headlines. The doctor was called before the County Medical Society and accused of unethical advertising. However, the House Staff and nurses all testified in his behalf and he was exonerated."

Radium therapy had been introduced to central Arkansas in 1916 by Dr. Dewell Gann, Jr., a Benton native. Dr. Gann received his medical education at Indiana University School of Medicine and began his practice of Obstetrics and Gynecology in Arkansas in 1915.

The 1917 catalog of the school described the X-ray facility of the Isaac Folsom Clinic simply as being located on the fourth floor of the clinic along with the operating rooms and sterilizing rooms (Figure 3). Lillie B. Hill, in her history, further describes this X-ray clinic: "The trustees of the University, in 1914, began plans for the erection of a Clinic Building on East Second Street, in compliance with the \$20,000 bequest of Dr. Folsom which was completed one year later. This four-story building included an expensively equipped X-ray laboratory, at a cost of \$1,800, a clinical laboratory, pharmacy, examining and treatment rooms for clinical instruction to students." City Hospital, at this time, did not have X-ray facilities.

The school catalog for the 41st session (1919-1920) was extensively revised, with no mention of electrotherapeutics or roentgenology. By the 1920-21 session, however, roentgenology had be-

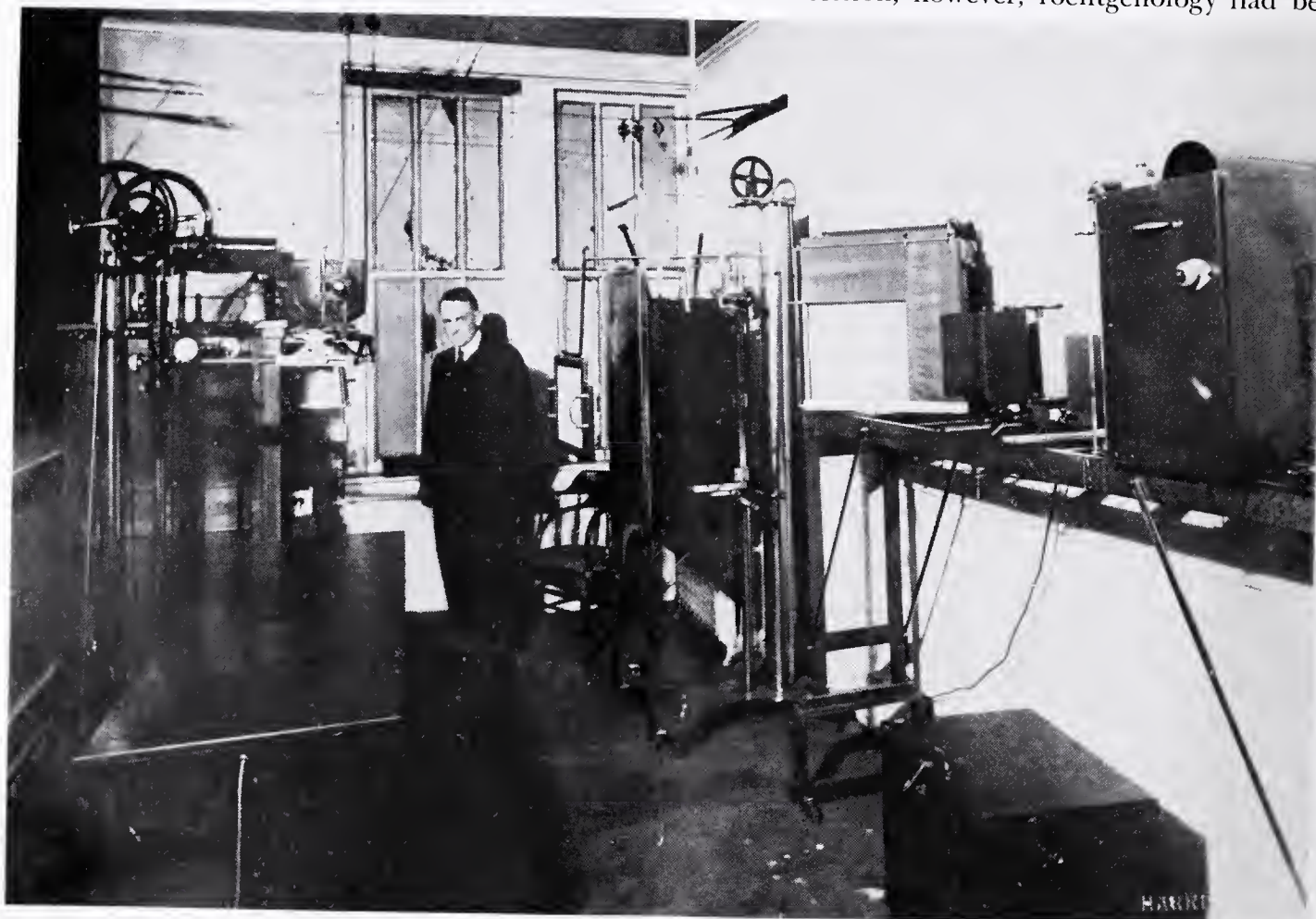


Figure 3.
The X-ray facilities of the Isaac Folsom Clinic in 1922. Dr. D. A. Rhinehart is in the background.

come a part of the school curriculum and has remained to the present. In 1920 Dr. D. A. Rhinehart became the roentgenologist for the institution, a position he was to hold for more than 20 years.

Darmon Artelle Rhinehart came to Arkansas from Indiana in 1914, having received his A.B., A.M. and M.D. degrees from Indiana University (Figure 4). He joined the University of Arkansas Medical School faculty for the 1914-1915 school year as associate professor of surgery. By the beginning of the 1920-21 academic year he had become Professor of Applied Anatomy and Roentgenologist for the institution. According to the school catalogs of this time, Roentgenology was considered a part of the Division of Medicine and Medicine Specialities. In this period immediately after World War I, Dr. Rhinehart, as Professor of Anatomy and Instructor in Roentgenology, was receiving a salary of \$150 per month as a full time faculty member.

Perhaps as a consequence of his salary, Dr. Rhinehart in the early 1920's left the full time faculty of the School of Medicine for private practice. In 1923, he was joined in his practice

by his younger brother, Dr. Barton Arthur Rhinehart, a post World War I graduate of the Indiana University Medical School (Figure 5). The firm of Drs. Rhinehart and Rhinehart, Roentgenologists continued as a viable entity for 30 years. During all or part of these thirty years, the Drs. Rhinehart were professors of Roentgenology at the University of Arkansas School of Medicine and Roentgenologists to St. Vincent's Infirmary, Missouri Pacific Hospital, Arkansas Children's Hospital and the Veterans Administration Regional Office.

By 1925, B. A. Rhinehart had joined his brother on the medical school faculty and Roentgenology was described in the school catalog for 1/2 hour credit as "Demonstration of X-ray plates illustrating the principles of interpretation and lectures on the use of X-ray, the indications for its use in diagnosis and treatment." The gains in importance that Roentgenology was making are perhaps reflected in the course being taught. The course in 1925-26 consisted of 17 hours of lecture taught in one semester. In the 1926-27 year, Roentgenology had been lengthened to 22 hours of lecture in the third trimester. By the



Figure 4.
Darmon A. Rhinehart, M.D.



Figure 5.
Barton A. Rhinehart, M.D.

next school year, two courses were offered. The 22-hour course was given only in one trimester, but a second, 16-lecture course had been added and was taught in all three trimesters. In the early 1930's a third course was added, and also given in all three trimesters.

Little description remains today of the X-ray facilities themselves. In 1925, St. Vincent's Infirmary advertised in the *Journal of the Arkansas Medical Society* extensive services including a 280,000 volt deep X-ray machine. Student reminiscing from this era indicates that such therapy devices were not available at the University associated hospital until some time in the early to middle 1930's.

The *Arkansas Democrat* on December 30, 1927, described City Hospital: "In the basement are located the pharmacy, X-ray room, mattress sterilizer, emergency room, general kitchen and separate dining rooms for doctors, graduate nurses and student nurses. The X-ray room is equipped with a lead shield to absorb the rays that might otherwise penetrate the walls and harm innocent bystanders." A 1934 *Arkansas Gazette* article described facilities as three fluoroscopy machines and a portable X-ray unit. By the 1935-36 school year, the School of Medicine catalog described in the Folsom Clinic "An X-ray department equipped for all types of roentgenological and fluoroscopic examinations and deep X-ray therapy." The *Arkansas Democrat* reported that in 1937 City Hospital performed 1780 X-ray studies.* Throughout this time period the school catalogs list only D. A. Rhinehart and B. A. Rhinehart as the faculty members in Roentgenology. There were other radiologists practicing in central Arkansas at this time, among them Dr. Ralph A. Law, Dr. William Riley Brooksher, Sr., and his son, Dr. William Riley Brooksher, Jr., and Dr. Frederick W. Hames, and these men undoubtedly contributed to the training programs at the school, but the key role in Roentgenology training was maintained by the Drs. Rhinehart.

In addition to the training programs for medical students at the school, the Drs. Rhinehart also trained both technologists and graduate physicians in their office. Both of these programs went on to become full training courses at the school. Dr. William E. Gray, who practiced

Roentgenology at Hot Springs, was trained by the Drs. Rhinehart in their offices under this preceptor arrangement. Several of the X-ray technologists in the central Arkansas region received their training under these arrangements.

An outgrowth of their extensive teaching was the publication of two books: *Roentgenographic Technique* by D. A. Rhinehart; and *Gastrointestinal Dysfunction* by B. A. Rhinehart. *Roentgenographic Technique* became a teaching "classic" in radiology, with four editions printed over a 25-year span.

The 1941 *Caduceus* divided the medical specialties into only medicine and surgery, with the Rhineharts listed under "Medical Specialities." Throughout the early 1940's the Drs. Rhinehart continued to be the mainstay of radiology teaching at the School of Medicine. D. A. Rhinehart was Professor of Radiology and B. A. Rhinehart had risen to the rank of Clinical Professor.

Mrs. Helen G. Matthews, presently Director of Graduate Education in the School of Radiologic Technology, describes the University Radiology Service of the 1940's. "I was employed at the University of Arkansas as a technologist for one year beginning April, 1940, and during this time Dr. B. A. Rhinehart was the radiologist in charge of the department. Dr. D. A. Rhinehart was in some way affiliated with the Anatomy Department, but replaced his brother in Radiology during illnesses. . . . At this time, there was one combination radiographic and fluoroscopic unit which also was used for low voltage therapy. An additional unit, a 200 kv therapy unit, completed the installation in the School of Medicine. An additional radiographic unit was located in the University Hospital." (Figure 6.)

In 1947, the school hired a full time faculty member and Chairman for Radiology, Dr. Isadore Meschan. Too, the school publications began to list the Department of Radiology as a separate speciality.

Isadore Meschan came to Little Rock and the University of Arkansas School of Medicine from Western Reserve University (now Case-Western Reserve University) in Cleveland (Figure 7). Dr. Meschan describes his findings as he arrived in Little Rock. "I arrived at the University of Arkansas Medical Center approximately in August, 1947. At that time, the Department of Radiology consisted of one room designated as the office for the department, two examining rooms, a small

*In 1977 University Hospital performed 63,000 radiographic studies.

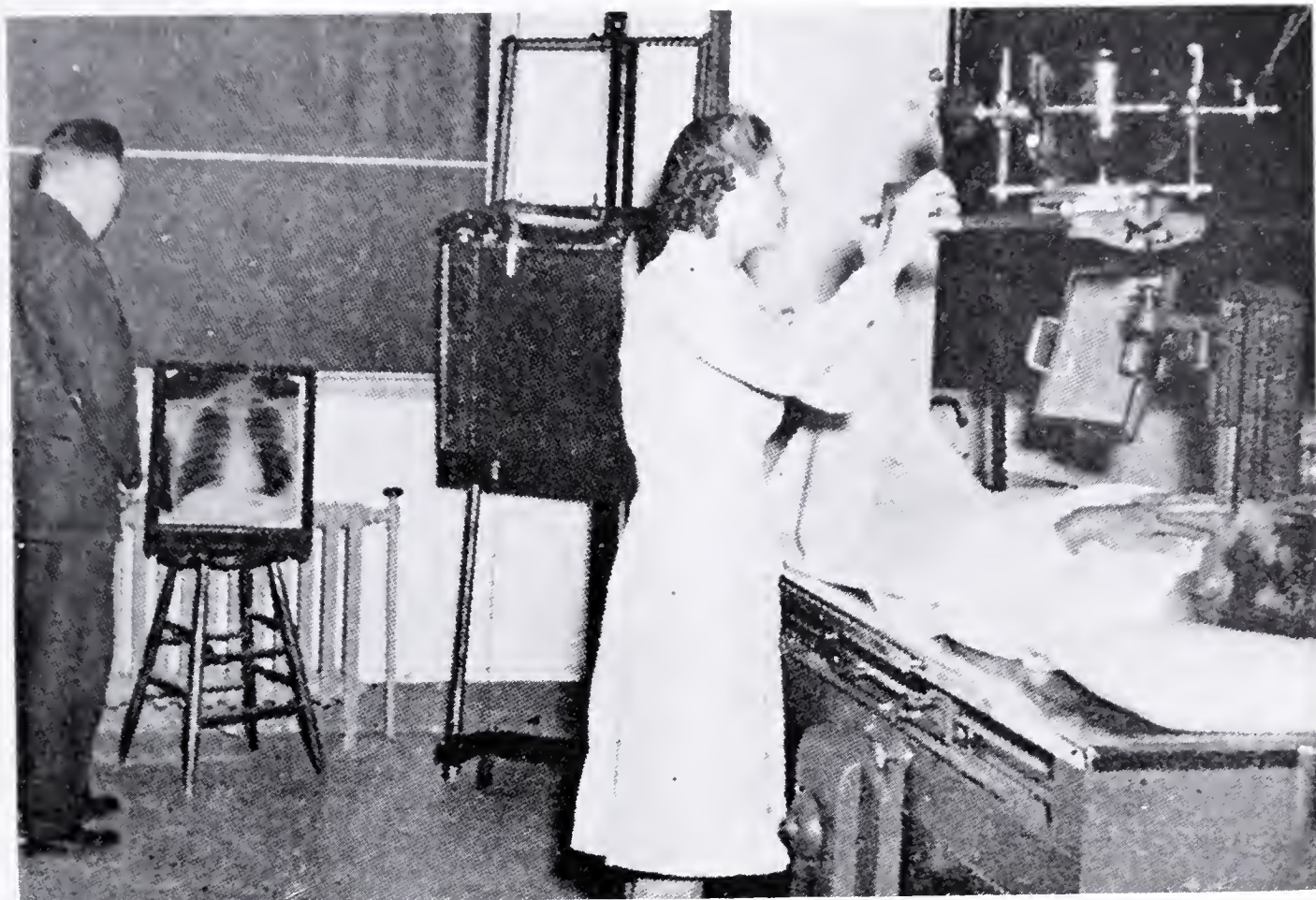


Figure 6.

A University (City) Hospital radiographic room in the early 1940's. The technologist is Helen G. Matthews and the radiologist is Dr. B. A. Rhinehart.

office designated for me, and immediately adjoining this office, a toilet facility which required that any patient examined by barium enema would have to traverse my office in order to utilize the toilet facility. The examining rooms consisted of two old Westinghouse machines serviced by the Dick X-ray Corporation locally. There had been one resident on duty up to the time of my arrival, but at the time I got there, he immediately left for other parts. There was an accumulation of about 30 days examinations that had not been interpreted for the records. The radiation therapy facility consisted of one 220 kv machine and with this, as many as thirty patients per day were being treated despite the fact that there was only part time radiological coverage and one resident."

Dr. Meschan's appointment as salaried faculty marked the beginning of a change from voluntary faculty to a more permanent faculty in the Department of Radiology. Voluntary faculty continued to provide considerable help, particularly in times of faculty depletion, and does to the present. With the beginnings of a full-time faculty, the programs of the Radiology Department

began to expand. Radiology was now taught throughout the four years of medical school. The training of graduate physicians as radiologists through an expanded residency program became a major part of the Department of Radiology. Technologist training through an expanded and accredited School of X-ray Technology also became a major part of the department in the mid to late 1940's.

One of the significant equipment acquisitions during Dr. Meschan's tenure was an early Telecobalt unit. This machine was one of the first to be installed in this country (Figure 8). Dr. Meschan and the Radiology Department physicist, Dr. T. H. Oddie, a Fulbright fellow from Australia, had been a part of the team developing this unit under the auspices of the Oak Ridge Institute of Nuclear Studies in Tennessee. The Cobalt Teletherapy unit came to Arkansas in late 1954, before the completion of the current Medical Center. Consequently the device was temporarily installed in the basement of the school on McAlmont Street. The Cobalt unit was bought under the auspices of the local chapter of the American Cancer Society. Apparently very little



Figure 7.
Isadore Meschan, M.D.

institutional funding was available, probably due to the construction of the new Medical Center, and Dr. Meschan had to completely install the unit for a cost of \$200. This was accomplished by nailing lead sheeting on the walls, and stacking lead bricks in certain critical areas. The unit was later moved to the new hospital on Markham and continued to be used for patient care until 1969 when it was replaced with a newer machine.

Anecdotes abound concerning this first teletherapy installation, but one is consistently repeated. Dr. Meschan describes the incident. "Another problem arose in the proper shielding of the ceiling of that room. These were offices for the members of the Surgery Department, and I can remember vividly one particular 'hot area' in the office of a member of the Surgical Department, and when it was discovered, we apologized to the Chairman of the Department of Surgery at that time, for any inconvenience we might cause in respect to shielding of this office. His first reaction was, 'Oh, that doesn't matter. That fellow has so much lead in his pants, he has enough self-made protection.' Nevertheless, we proceeded to protect that office properly so that it was fully shielded before treatments were instituted."



Figure 8.
The original Cobalt-60 Teletherapy installation on McAlmont Street in 1954.

Several other projects were under way during these years. Research into uses of radioisotopes in treatment and diagnosis of disease was being conducted, and supported by outside funding agencies such as the National Institutes of Health and the American Cancer Society. All told, these years of movement from an essentially clinical radiology program to an academic radiology department seemed to progress smoothly.

The research into the uses of radioisotopes for diagnosis were to culminate in the development of first a radioisotopes service at the Medical Center and finally a Division of Nuclear Medicine within the Department of Radiology. Dr. Meschan had begun studies with radioisotopes at Western Reserve University in the years immediately following World War II. In collaboration with Dr. Oddie, some of the pioneering work involving radioactive iodine and the thyroid gland was performed.

By the early 1950's plans for the Medical Center on Markham Street were complete and construction was underway. Dr. Meschan played a major role in the design of the new facilities.

His insight in planning for expansion within the department was obvious in the relatively (on a national basis) large amount of space designated for use by radiology and its fledgling subspeciality of radioisotopes. Today that space is completely filled and renovations are underway for future expansion. Dr. Meschan never occupied the new department, however. In the summer of 1955 he left the institution to accept the Chairmanship in Radiology at the Bowman-Gray School of Medicine in Winston-Salem, North Carolina.

With Dr. Meschan's departure, Howard J. Barnhard became acting chairman of the Radiology Department. Dr. Barnhard, a Florida native, had come to Arkansas the previous year, and, with Dr. Meschan's leaving, was the only physician faculty member of the Radiology Department. Dr. Oddie, the physicist, and Mrs. Helen G. Matthews, the Technology School Director, comprised the remaining faculty.

Dr. Barnhard remained the acting chairman until March of 1956 when Dr. David M. Gould came to Little Rock as Chairman of Radiology at the School of Medicine. Dr. Gould came to Arkansas from the Johns Hopkins School of Medicine (Figure 9). At Dr. Gould's arrival con-

struction was nearing completion on the new School of Medicine complex but due to the usual construction delays, the X-ray department, along with most of the other facilities, was still located at McAlmont Street. Because of the usual budgetary problems, the best of the existing equipment was to be relocated to the new hospital leaving only the poorer equipment at the McAlmont Street location. Thus for this transition period between schools, and for the new chairman, most of the X-ray equipment was "sicker" than the patients.

Finally the new hospital and Radiology Department were complete and the department shifted to the new location. Dr. Barnhard describes the move to the new facilities. "Moving was accomplished relatively painlessly thanks to the efficient work of our own crew with the considerable assistance of Terminal Van Lines and Storage Company who had the contract. There were inevitably things to be coped with in the new department. It suffered and to some extent continues to suffer from the limitation in diagnostic room size imposed by funding constraints. Additional deficiencies by the contractor also had to be overcome. Not all the fluoroscopic rooms were light proof. These were the days before image intensifiers when red goggles for visual adaptation and strict light tightness of rooms were a must. Dave Gould, impatient with Physical Plant's not getting around to remedying this problem soon enough, brought his tool kit from home and for a while was hailed as the highest paid carpenter on the staff. But he got his point across and the situation was promptly remedied. A somewhat less crucial and considerably more amusing deficiency occurred in our conference room where it was found that the built-in view boxes included a bank just under the ceiling with switches at the top, virtually impossible to reach. Apparently the contractor thought these were some sort of indirect ceiling lights."

Dr. Gould remained as chairman until the summer of 1959 when he left Arkansas to assume a similar position at Colorado. Dr. Gould's leaving for Colorado was prompted partially by the traditional problems of funding and faculty recruitment, but primarily by the community problems of those days of the "Little Rock crisis" involving school desegregation. Dr. and Mrs. Gould had children approaching high school age at that time. Mrs. Gould had been very active in the



Figure 9.
David M. Gould, M.D.

Women's Emergency Committee to open the schools. Both had become quite disenchanted with attitudes of many people in the community toward education, toward desegregation and toward people who favored complying with the law and keeping the schools open on a desegregated basis.

With Dr. Gould's departure, Marvin Daves became acting Chairman of Radiology. Dr. Daves had been a resident of Dr. Gould's at Johns Hopkins and had joined the University's faculty some months prior to Dr. Gould's leaving for Colorado. Dr. Daves served as acting chairman for several months before he, too, went to Colorado. He was followed by Wilma C. Diner, also in the capacity of acting chairman, until the summer of 1960.

In the summer of 1960 Howard J. Barnhard became Professor and Chairman of Radiology. Dr. Barnhard had joined the department originally in 1954, and served as acting chairman prior to Dr. Gould, but had left in 1959 to become a member of the faculty at Hahneman Medical College in Philadelphia.

Dr. Barnhard comments on his tenure. "It is impossible to be objective about one's own stewardship. Certainly the period was one of many changes in methods of teaching students and residents. The growth of personnel and facilities was never enough to meet rising expectations due to the ever present frustration of limited resources. Particularly discouraged were a number of fine young radiologists on our faculty, some trained here, others who joined us from elsewhere. A particular element in their restiveness was the truly greener grass at the other teaching institutions and particularly of private practice where personal income was higher and facilities were more adequate."

Many research projects were underway in the Department of Radiology during these years. Basic science studies in cellular radiobiology and biochemistry were begun, along with many clinical studies. Of particular note was a study begun by Dr. Barnhard and others involving the use of computer systems for the storage and handling of diagnostic radiography information. This Diagnostic Radiology Information System (DRIS) was supported by the federal government and the American College of Radiology with an expenditure well in excess of one million dollars.

The DRIS program received a measure of national recognition before funding reductions forced its demise. The retrieval systems are still working within the department at this time, however.

In 1969, a Division of Nuclear Medicine was created within the Department of Radiology. This division was the culmination of growth of the subspecialty associated with the Radioisotopes Service that had begun under Dr. Meschan and continued to grow through the Gould and Barnhard tenures. The head of the new division was Glenn V. Dalrymple and the purpose of the division was to "provide clinical training in nuclear medicine for residents and interns in radiology, graduate students in the basic sciences, medical students, radiologic technicians and physicians in other specialties who are interested in the use of radioactive materials."

Dr. Barnhard resigned the Chairmanship of Radiology in July 1973, to become Director of the Department of Planning, Organization and Development of the University of Arkansas Medical Center.

Glenn V. Dalrymple followed Dr. Barnhard as chairman. Dr. Dalrymple was a native of Little Rock who had trained under Dr. Gould at the Medical Center, and in Colorado. He returned to Arkansas in 1965 and became head of the new Division of Nuclear Medicine in 1969.

Dr. Dalrymple recalls, "On 1 July 1973 I accepted the position of Professor and Chairman of the Department of Radiology of the University of Arkansas School of Medicine and chief of radiology of the radiological services. This also carried with it responsibility for radiology services at the V.A. and the Children's Hospital. During my tenure I found myself progressively more involved in administrative activities and less in research and patient care. Almost from the outset, there were problems relative to equipment in the Radiology Department. My first official act as Chairman of Radiology was to shut off the use of 'dark room' fluoroscopy. Prior to that time 'red-eyed' fluoroscopy was still being performed."

During Dr. Dalrymple's tenure as chairman, the faculty enlarged to a size which was greater than at any time prior in the history of the department. Particularly, faculty were recruited in the subspecialty areas of radiology such as special procedures. The Radiology Department

budget by this time exceeded several million dollars.

Through the mid 1970's, major changes were taking place in the training of radiologists. The "general radiologist," who practiced radiotherapy and perhaps nuclear medicine along with diagnostic radiology, was gradually being replaced by individuals who were being specifically trained in the various subspecialties of radiology. The Division of Nuclear Medicine had previously been formed within the Radiology Department to encompass the duties of the old Radioisotopes Service. In 1973 radiotherapy became the Division of Radiology Oncology, with Donald R. Harris as head. Then in 1974, Wilma C. Diner became the head of the Division of Diagnostic Radiology. With these changes, residency programs were offered in Nuclear Medicine, Radiation Oncology, and Diagnostic Radiology. The general radiology programs no longer exist.

Radiation therapy underwent another major change in 1976 with the opening of the Central Arkansas Radiotherapy Institute (CARTI). This new facility centralized all radiation therapy in the area and allowed the acquisition of much better equipment than had been the case when various institutions individually owned therapy equipment. With the opening of CARTI all

aspects of Radiation Oncology, including training programs, were moved from the University location to CARTI.

Dr. Dalrymple resigned as Chairman of the Radiology Department early in 1976 to enter the private practice of radiology. He cites a variety of reasons for leaving: "Throughout my tenure as a full-time university faculty member, I very much enjoyed my contact with graduate students, residents and fellow faculty members. It truly was with great reluctance that I left the university. During the final years, though, I was forced to realize that one could not stay at the edge of developments in a scientific field and at the same time remain proficient as a physician. After much soul searching I decided I was more of a physician than a researcher and, subsequently, decided to go into full time medical practice."

With Dr. Dalrymple's resignation, Charles M. Boyd became acting Chairman of Radiology and remained in that position until mid-1977. Dr. Boyd, an internist, had come to Arkansas from Michigan in 1970, and had become head of the Division of Nuclear Medicine in 1973.

The Radiology Department by 1976 had, like most of the rest of the departments of the institution, totally filled the space designed for it 20 years previously (Figure 10). Additionally, halls,

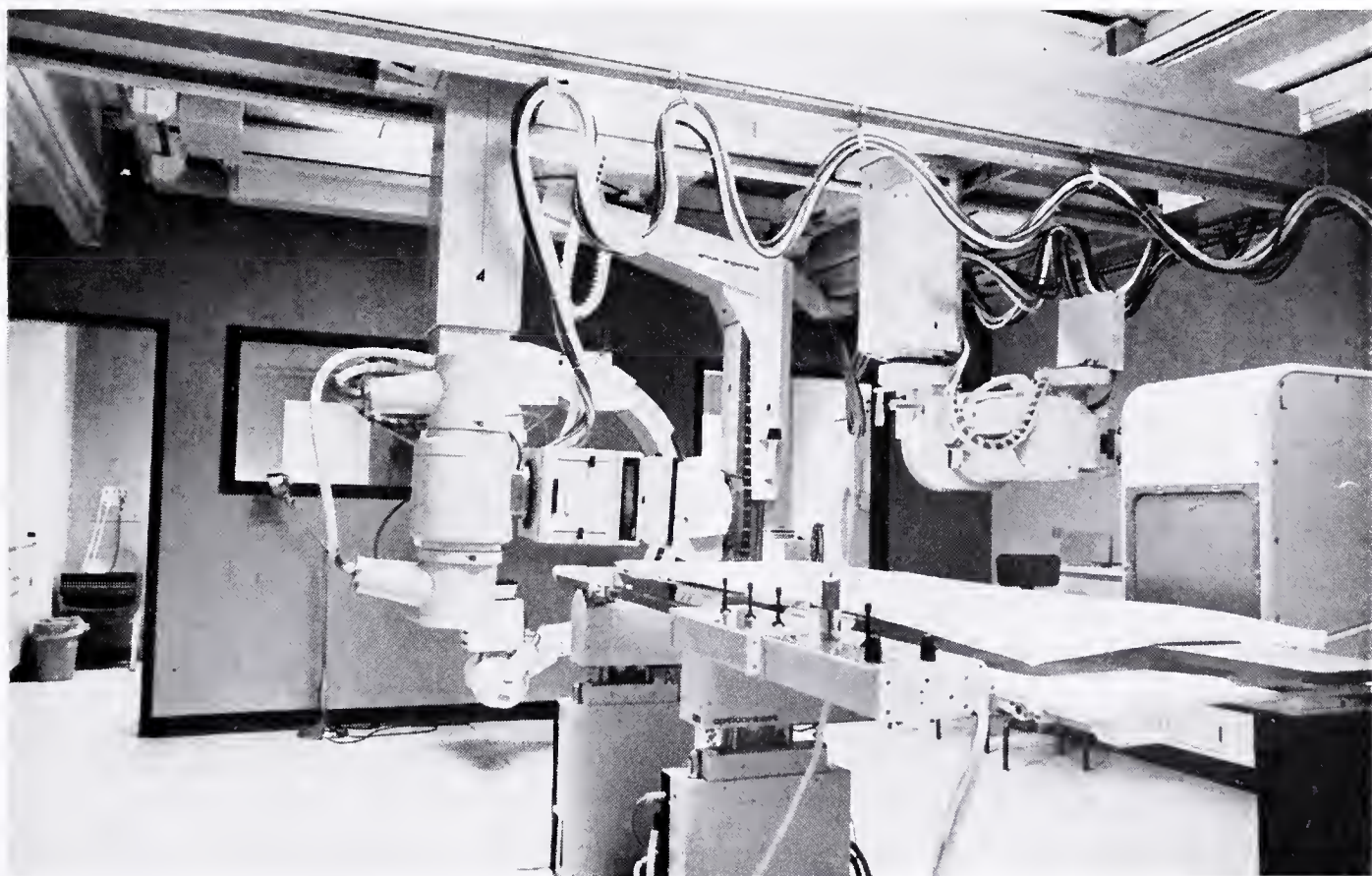


Figure 10.
Present special procedures room at University Hospital.

closets and classrooms were being utilized for storage and teaching. The Nuclear Medicine laboratories were also housed in facilities designed 20 years earlier.

A major renovation of University Hospital, begun in 1975 and scheduled for completion sometime in 1979 includes a complete renovation of the Department of Radiology. Additionally, the Division of Nuclear Medicine will occupy an area adjacent to the Diagnostic Radiology Service.

In August 1977, Dr. Boyd returned to his full time position as head of Nuclear Medicine and Ernest J. Ferris became Professor and Chairman of the Department of Radiology. Dr. Ferris, a native of Boston, with interests in vascular radiography, tells of his arrival. "... I was greeted most warmly by the members of the Department of Diagnostic Radiology and Nuclear Medicine. My wife, Alice, and I were delighted with the kind reception that the Yankees from the Northeast received from our colleagues in the South and Southwest. There had already been much discussion for a new building program, and indeed, the physical plant was being renovated in August of 1977. We were to add CT scanning to our armamentarium and, furthermore, to consolidate on the same floor the Imaging Section of Ultrasound, Nuclear Medicine and CT Scanning. Most recently we put in a \$750,000 Cardiac Catheterization Unit which was badly needed. New office facilities for the staff and new reading areas and an automated file room greeted me on my arrival. It was a pleasure, of course, to have the physical plant renovated and certainly to have obtained some of the niceties of current diagnostic radiology imaging prior to my arrival. I found a complement of excellent staff at the University of Arkansas. . . . I look forward to an

expanding staff of excellence and feel that in the next four to five years the University of Arkansas will have a superb radiology department. The present nucleus is certainly adequate for building the kind of department that the State of Arkansas and the university can look upon with pride."

Thus, Radiology, a non-existent speciality at the school's inception, prepares to enter its eighty-fourth year of history as the College of Medicine enters its second century.

SOURCES OF INFORMATION

The background information for this article was obtained from a variety of sources, including the following:

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 - c. Glenn V. Dalrymple, M.D.
 - d. Wilma C. Diner, M.D.
 - e. Ernest J. Ferris, M.D.
 - f. Ulys Jackson, M.D.
 - g. Helen G. Matthews, B.S.R.T.
 - h. Isadore Meschan, M.D.
 - i. William J. Rhinehart, M.D.
 - k. Lawrence Zell, M.D.

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Office Orthopaedics

Spontaneous Rupture of Muscles, Tendons and Insertions of Same

H. Austin Grimes, M.D.*

When a muscle ruptures spontaneously or when an insertion of muscle-tendon into bone avulses, attention is usually sought immediately. This is because function is lost and/or pain dictates medical advice. However, ruptures of certain tendons are not painful and medical help is often delayed for weeks, or longer.

Normal tendon does not rupture. Tendons that do rupture spontaneously are usually degenerated or affected by some disease process found in middle-aged or older individuals performing some activity that would, in a younger person, be innocuous.

Many cases of partial or incomplete tears may go undiagnosed because of the difficulty in evaluating an intact muscle or myotendinous junction. However, some current thinking is presented for your perusal in dealing with the various sites of muscle tendon and insertional strain ruptures or avulsions.

Commencing with the upper limb, the supraspinatus tendon of the rotator cuff is often partially or completely ruptured and is evident by passively flexing the upper arm to 90°, and if the patient is unable to sustain the flexed position, a complete tear may be present. Initially pain may preclude performing this maneuver and give an equivocal false-positive test for complete rupture. In these cases, local infiltration may give a better pain tolerance or simply waiting a few days with the patient's arm in a sling and repeating the test when better tolerated by the patient. A partial tear of the supraspinatus

may result in a negative test, depending on the degree of tear of the tendon. In instances when the diagnosis cannot be definitely established, an arthrogram of the shoulder may be performed and often will reveal the dye spilling out of the capsule at the site of the rupture. Surgical repair is indicated in complete tears and in some incomplete tears as well. In others, conservative management in sling, and later physical therapy to rehabilitate the function of the shoulder is advisable.

The long head of the biceps, when it ruptures, is not usually so painful but deformity is obvious and function of the biceps is markedly impaired. The patient can still flex the elbow with the biceps as the short head and its muscle fibers are usually still functioning, though weak. Early within the first few weeks, surgical repair will result in a better but still weaker functioning biceps long head. The tendon is usually reinserted in the proximal shaft of the humerus. In late ruptures of the biceps long head (several months) it is doubtful much strength will be regained and if the patient does not insist, it is probably better left as is, depending on the activity level of the patient. The biceps insertion in the radius occasionally avulses and requires surgical repair in most cases.

Triceps rupture occurs at the myotendinous junction and surgical repair is necessary. Inability to extend the forearm actively, plus a palpable defect and pain help diagnose this rather rare problem.

Tendons may rupture at the wrist level, usually

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in association with some other pathological state. The more common tendon involved is the extensor pollicis longus frequently as a result of attrition due to damage with a Colles' fracture of the wrist. However, all the extensors at the wrist have been reported at various times in association with rheumatoid arthritis and minimal trauma. Surgical repair is indicated.

Boutonniere deformity (central slip rupture at PIP joint, finger) is also a spontaneously occurring deformity frequently associated with rheumatoid arthritis and is very difficult to treat surgically or otherwise unless seen very early, then results are often disappointing.

Baseball or mallet finger is very common and depending on x-ray evidence or avulsion of a bone chip, surgery may give a fair result but with no bone chip, splint management probably results in as good a result.

In the lower limb, the more common injury is partial rupture of the gastroc-soleus junction of the myotendinous rupture with forced dorsiflexion of the ankle with the knee extended, found commonly in the middle-aged tennis player, but the mechanism is the same in many other activities, skiing, etc. Treatment is usually rest, crutches, then activity as tolerated, carefully evaluating for phlebitis during the inactive period. Elastic stockings in chronic swelling, along with elevation, usually suffice. Rupture of the plantaris usually only needs rest for a relatively brief period. Surgery is usually not indicated.

Other less common sites for ruptures to occur are avulsion of the Achilles at os calcis, with a bone fragment which requires surgery, and rupture of the tendo-Achilles itself, which have been treated both closed and surgically. Surgical repair primarily seems to be the better choice at this site because of the high re-rupture rates of the closed method of treatment.

Rupture of the supra or infrapatellar ligament spontaneously is relatively rare, but blunt trauma to quadriceps occurs fairly frequently in football players and will become more common in this country with the spread and popularity of soccer.

Hamstring pull or partial rupture of the muscle bellies is common enough and occasionally, avulsion of the origin of the hamstring from the ischial tuberosity is encountered in young athletes. Treatment is usually non-operative and results are decreased strength and agility, depending on the severity of the rupture. A large avulsion fragment of the tuberosity requires surgery!

Rupture of extensors to the toes, short or long, usually has an underlying diseased condition preceding the actual loss of continuity.

A very frequent avulsion fracture due to stretch of the peroneus brevis insertion at the base of the fifth metatarsal frequently requires only closed casting, but may, occasionally, require open reduction.

Other rare ruptures of tendons in the lower limb, i.e., anterior tibial, toe extensors, extensor hallucis longus, most all of which require surgical repair.

Summary

Consideration of the diagnosis of tendon or muscle rupture in complaints of pain and/or dysfunction in an extremity is presented. Methods of examination and treatment are suggested which are currently utilized, omitting surgical details which are fairly well standardized.

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ELECTROCARDIOGRAM

OF THE MONTH

The Department of Cardiology, University of Arkansas College of Medicine

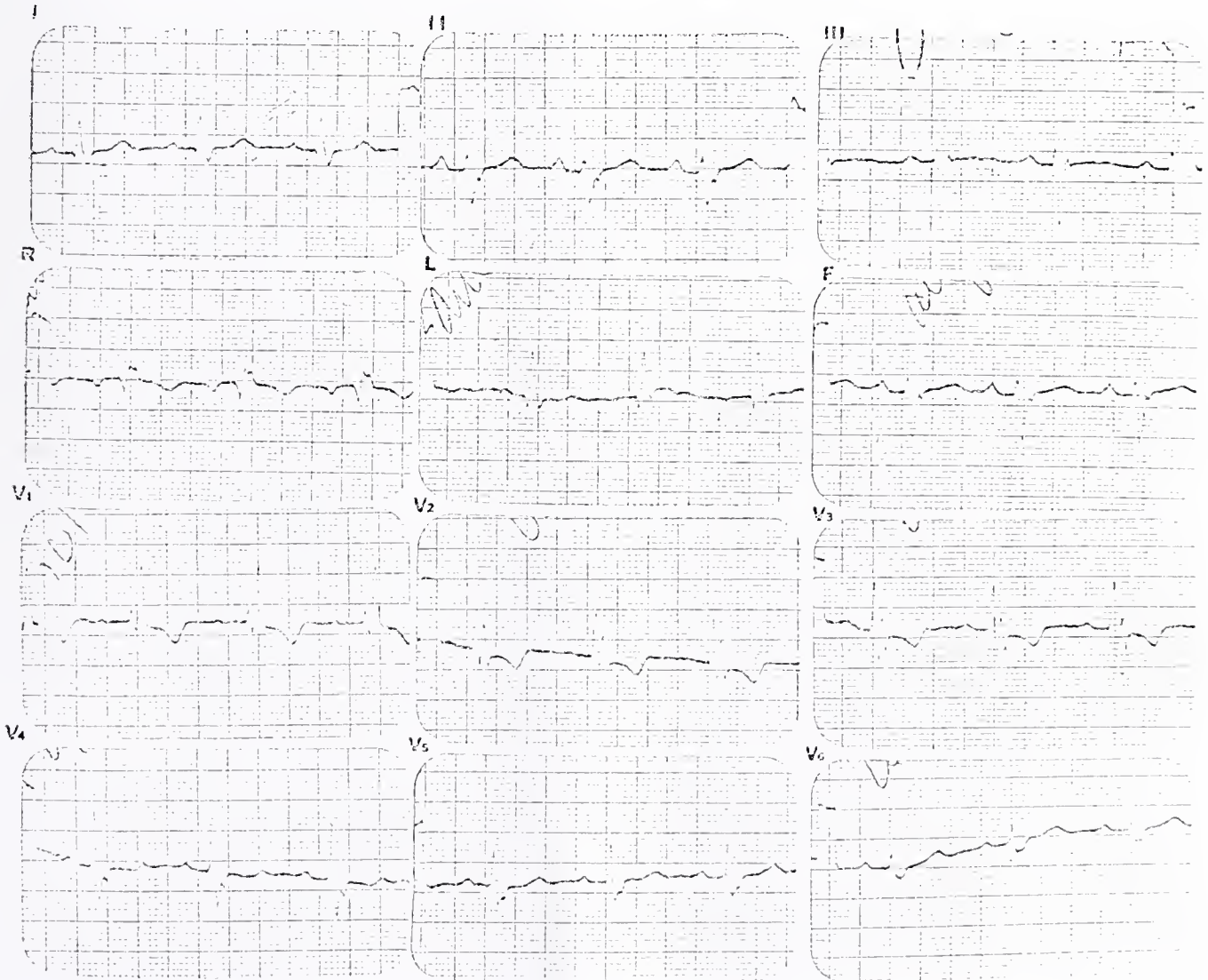
(See Answer on Page 438)

HISTORY: Mrs. H. is a 75-year-old lady who is in need of a cholecystectomy. She has a negative past cardiovascular history and system review. Her physical examination is positive in that she has a soft S1 and a wide but physiologic split of S2. The preoperative electrocardiogram is shown.

Which one or ones of the following "blocks" are present on the ECG?

1. Left bundle branch block.
2. Right bundle branch block.
3. First degree AV block.
4. Left anterior fascicular block.
5. Left posterior fascicular block.

Should the patient have a temporary pacemaker prior to the operation?



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"MAST: Saving Lives in Arkansas"

Michael L. Hampton, B.S.E., E.M.T.*

Physicians, emergency medical technicians and emergency room personnel will gradually be seeing more of a relatively new piece of emergency equipment which can be utilized in pre-hospital emergency care to stabilize a severely traumatized or weakened cardiovascular system.

Whether the patient's problem is one of blood loss, shock, cardiac arrest or a generally impaired and/or deteriorating cardiovascular system, the pre-hospital care to be administered has virtually defied control until recently. The device that contributes to improved field management of trauma by raising blood pressure and controlling exsanguination in the lower half of the body is known as MAST (Military Anti-Shock Trousers).

The MAST garment is a one-piece, double-layered polyvinyl fabric that fastens around the patient with Velcro fasteners or zippers, depending on the manufacturer. When applied it encompasses all of the lower body from the lower rib cage to, but not including, the feet. Some models have three separate chambers capable of being inflated or deflated independently of each other. One chamber is applied around the abdomen and another chamber around each lower extremity leaving the groin area accessible for placement of a urinary catheter. The suit is inflated with a foot pump to a pressure of no more than 104 mm.Hg., which can be sustained indefinitely. The ability to increase external pressure around the abdomen and legs affords more rapid control of hemorrhage because the garment exceeds the arterial pressure. This forces the pooled blood in the lower half of the body to the patient's brain and other vital organs virtually giving the patient a transfusion of their own blood. The MAST garment, through its mode of operation, effectively:

1. Controls or stops internal bleeding,
2. Forces any available blood from the lower body to the heart, brain and other vital organs in the body,
3. Reduces the return of the available circulatory blood volume to the lower extremities, and
4. Stabilizes fractures of the pelvis and lower extremities.

The MAST garment is applied in the field by trained ambulance personnel when a patient has a systolic blood pressure of less than 90 with suspected trauma. The garment is fully inflated in approximately 60 seconds after placement on the patient. With application of the suit an inadequate circulating blood volume for the whole body is converted to a possibly adequate circulation for the upper half of the body. The damage that can be done due to shock is therefore reduced. The suit can be applied over splints, traumatic amputations, gunshot wounds, blunt trauma to the abdomen or stab wounds. When the MAST garment is used in conjunction with IV fluids, patients usually show a marked improvement, but the systolic blood pressure will rise substantially without the use of fluids in field application.

The suit produces an almost immediate improvement in vital signs. It is imperative that the garment remain on the patient until blood and volume expanders are available to sustain the patient's condition. Deflation should be accomplished gradually to avoid a sudden return of shock. A major function of emergency medical services, in the field, is patient stabilization and safe delivery to an emergency care facility; the MAST garment provides the stabilizing factor needed.

One of the first emergency systems to employ the MAST garment, outside the military environ-

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Table 1
CITY OF MIAMI FIRE DEPARTMENT — RESCUE DIVISION
Use of MAST-I Anti-Shock Trouser
20 Consecutive Hypotensive/Hypovolemic Cases
March 6, 1973 - April 25, 1973

Case No.	Age	Sex	Diagnosis and/or Treatment	Blood Pressure		Sensorium ¹		Blood Pressure on arrival at Emergency Room	Blood Transfused ml.	Outcome ²
				Before MAST-I	After MAST-I	Before MAST-I	After MAST-I			
1	27	M	Fx L leg; crush injuries both legs	None obtainable	120/70	SC	C	120/90	1,500	R
2	38	M	Tramatic amputation lower R leg; fx R femur; compound fx lower L leg	60 palp.	75/50	SC	C	140/80	3,000	D ³
3	33	M	Gunshot R chest and arm; hemopneumothorax	None obtainable	100/80	SC	C	130/90	None ⁴	R
4	70	F	Blunt trauma to abdomen, fractures; splenectomy, repair inferior vena cava	70/50	110/50	SC	C	110/65	8,000	D ⁵
5	34	F	Vaginal hemorrhage, hydatidiform mole; abdominal hysterectomy	100/70	120/80	C	C	110/70	2,000	R
6	73	F	Fx L leg; blunt trauma to abdomen; ligation supermesentery vein; splenectomy	None obtainable	7	U	SC	60 palp.	4,000	D ⁶
7	40	M	Fx skull; crushed trachea; L hemothorax; open chest heart massage	None obtainable	None obtainable	U	U	None obtainable	None	DOA
8	78	M	GI hemorrhage	None obtainable	85/50	SC	SC	90 palp.	1,500	R
9	67	M	Fx R leg, blunt trauma abdomen; laparotomy, evacuation of retroperitoneal hematoma, cystostomy	80/60	110/70	SC	C	80 palp.	5,500	R
10	39	F	Gunshot, abdomen; nephrectomy, splenectomy distal							
11	35	F	Gunshot, abdomen; repair lacerations to liver & kidney	85/40	100/60	C	C	70 palp.	1,500	R
12	42	M	Gunshot, abdomen; small bowel resection	80/60	100/70	C	C	105/70	3,500	R
13	43	M	Stab wounds, abdomen, chest; thoraco-abdominal exploration	None obtainable	50-palp.	U	C	80/45	2,500	R
14	60	M	Gunshots, head, back; thoracotomy for pulmonary laceration	None obtainable	50 palp.	C	C	90 palp.	6,500	D ⁵
15	67	M	Fx L hip, dislocation R elbow	80 palp.	105/60	C	C	150/90	500	R
16	32	M	Gunshot, back; nephrectomy, splenectomy	60 palp.	90/60	C	C	110/70	8,000	R
17	34	M	Stab wounds, thigh; ligation femoral vein	None obtainable	70/50	U	C	70 palp.	1,000	R
18	63	M	Fx L hip	95/75	115/70	C	C	120/90	1,000	R
19	49	M	Gunshot, chest; thoracotomy	110/60	110/60	C	C	160/80	3,500	R
20	61	M	Fx both legs	60/50	85/50	C	C	100/60	6,500	R

¹C = conscious²R = recovered³Third day after surgery. MAST-I had been removed in Emergency Room, with resulting shock.⁴Estimated blood loss 1,000

SC = semi-conscious

D = died

⁵During surgery

U = unconscious

DOA = dead on arrival

⁶In surgical recovery room⁷Record incomplete

ment, was the City of Miami's rescue service. The garment was utilized in 20 cases over a seven-week period with an average response time (time between the receipt of a call for medical assistance and arrival on the scene) of four minutes (Table 1). Patients ranged in age from 27 to 78. Eighteen of the 20 cases involved blunt trauma or stab wounds. Out of eight patients found without an obtainable blood pressure, five eventually recovered. Of the eight patients with no blood pressure, seven had immediate restoration of palpable blood pressure. In this same group, improved sensorium was observed in five, one patient remained unconscious, one semi-conscious and one never lost consciousness. Among the 12 patients with some blood pressure obtainable before use of the MAST, nine never lost consciousness and three regained consciousness.

Some problems encountered with the use of the MAST garment include:

1. Lack of physician understanding in sudden removal of garment and rapid fall in patient blood pressure,
2. Failure of the emergency medical technician to continue to check the garment for adequate inflation,
3. Lack of understanding among ER personnel of the frequent presence of cyanosis in extremities when MAST is in use resulting in their sudden releasing pressure in the garment,
4. Fatal laceration of the garment by ER personnel who cut off MAST as soon as patient arrived in emergency department,
5. Visual and palpatory examination of the covered areas cannot be made without disengaging at least one chamber,
6. Restriction of lung expansibility may result in an undesirable sensation of angina or cause actual respiratory insufficiency, and
7. The abdominal compression may trigger urination, defecation, or vomiting.

Despite correctable problems, the MAST garment is a major tool for the treatment of traumatized patients outside the hospital setting. It can and should remain in place on the patient while awaiting surgery or other treatment (x-rays are taken, specimens drawn, catheters placed,

blood cross-matched, IVs placed, a standard 12-lead cardiogram made, etc.). The stability produced by the garment should not preclude a delay in diagnostic and therapeutic maneuvers. MAST is required equipment on the licensed Advanced Ambulance Service in Arkansas and is included in the EMT-Paramedic skills. It is a recommended piece of equipment for licensed Basic Ambulance Services and is in wide use in Northwest Arkansas.

The MAST garment is a simple, low-cost, fast-acting, reuseable blood volume stabilizer in life-threatening situations and in some less serious types of cases.

ARTICLES FOR REVIEW

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Lilja, G. P., Batalden, D. J., Adams, B. E., Long, R. S., and Ruiz, E.: Value of the Counterpressure Suit (MAST) in Pre-Hospital Care.

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Emergency Medical Review, Winter, 1979: New Anti-Shock Airpants Introduced.



ANSWER—Electrocardiogram of the Month

DISCUSSION: A sinus mechanism is present. The QRS duration is 0.14 seconds and the PR interval 0.20-0.22 seconds. The broad S-wave in I and V5-V6 along with the RSR' complex in V1-V2 suggest RBBB. The axis is far to the left. Small Q-waves are present in I and AVL and a small R-wave is present in III. Thus, LAFB is present. In summary then, 1° AV block, RBBB, and LAFB are all present. A recent paper (Circulation 57:677, April 78) covered the situation of the asymptomatic patient with RBBB and LAFB and the author indicates that temporary pacing is rarely needed for noncardiac surgery. The situation is less clear when 1° AV block is added and many authorities continue to recommend temporary pacing in this situation.



EDITORIAL

Factor VIII and Hemorrhagic Disease

Alfred Kahn, Jr., M.D.

Hemophilia is a disease which has received widespread publicity because of its presence in some European royalty — but it has been known for many centuries as pointed out in an excellent symposium consisting of Gralnick, Collier, Shulman, Andersen, and Hilgartner on Factor VIII; it is published in *Annals of Internal Medicine*, Vol. 86, page 598, May, 1977. Actually, Gralnick states that hemophilia was recorded in Talmudic writings in 500 A.D. Factor VIII/von Willebrand factor is principally concerned with two diseases: hemophilia and von Willebrand disease.

Gralnick reviewed the differences between hemophilia and von Willebrand disease in his discussion. He characterizes von Willebrand disease as an autosomal disease — which may affect either sex. These victims tend to bleed from the mucus membranes, gastro-intestinal tract and skin. The Factor VIII/von Willebrand factor level is variable but low; bleeding time is prolonged; platelet retention is abnormal. The antigen level, Risocetin induced platelet aggregation, and the Risocetin induced platelet aggregation of unresponsive normal platelets are all reduced. Transfusions produce exaggerated Factor VIII/von Willebrand factor responses and shortened bleeding time.

Hemophilia on the other hand is x-linked. The bleeding tends to induce hemarthroses and soft tissue hemorrhages. Factor VIII has a moderately severe reduction platelet retention antigen levels and aggregation tests are normal. Transfusion induces no complementation in contrast to von Willebrand disease.

Factor VIII/von Willebrand factor is a very large molecule with a molecular weight of 1.2 million, apparently made up of identical subunits. The Factor VIII in von Willebrand disease has three biologic factors which may be vari-

ably affected procoagulant, antigenic and von Willebrand factor activities. They suggest that a possible explanation of the clotting defect is that the glycoprotein which makes up Factor VIII interacted through the carbohydrate portion with the vessel wall and platelets. If there is a reduction in the molecular size or carbohydrate the Factor VIII could not function properly.

Collier, in the same symposium, reviewed the von Willebrand factor in platelet function. He states that platelets from patients with von Willebrand disease will correct the bleeding time of patients with aplastic anemia suggesting that the platelets are normal. However, normal platelets do not correct the bleeding time of von Willebrand disease patients — suggesting a missing plasma factor. One test Collier mentions as being useful in von Willebrand disease is the glass bead retention test; it is unfortunately non-specific. He has arrived at a tentative hypothesis concerning the arrest of bleeding — based on his studies of clotting. "Damage to the vessel wall exposes platelet reactive surface. In one scheme, the ability of platelets to adhere to this surface depends on the von Willebrand factor — etc. Another relies on a role for the von Willebrand factor in platelet-platelet interactions." Meaning the platelet adherence to the vessel wall is not dependent on von Willebrand factor but the build up of platelets is dependent on von Willebrand factor.

Shulman, continuing the symposium, states that there are Factor VIII inhibitors which are antibodies — and 5% to 20% of hemophiliacs have these antibodies. It is of further interest that the plasma from classical hemophiliacs show normal von Willebrand factor but no Factor VIII activity. If Factor VIII is given, antibodies may develop giving Factor VIII in certain cases

with titers of antibody may not work, and in some cases, concentrated vitamin K has been used with success. Some cases are reported in which previously normal individuals develop antifactor VIII.

Andersen discussed the problem as to whether the Factor VIII from Willebrand factor is one molecule with two functions or two molecules. The issue is still undecided.

In the same issue is an article by Ratnoff and

Jones on the laboratory diagnosis of the carrier state for classic hemophilia. They used the titer of procoagulant antihemophilic factor and the concentration of antihemophilic factor-like antigens as a means of investigating hemophilic carrier states. The authors report that they have differentiated 94% of obligate carriers from normal women. The only problem noted here is that a positive test is meaningful; a negative test is not fool-proof. The test is most reliable in only close relatives of hemophiliacs.



MEDICINE IN THE



THE MONTH IN WASHINGTON

The Carter Administration appears to be leaning toward a broad national health insurance proposal that features establishment of a federal insurance program — healthcare — to stand alongside existing private plans.

While commitment is not final, a "National Health Plan" (NHP) has been submitted by the Health, Education and Welfare Department to the White House for approval.

President Carter has many questions and reservations about the approach and he has not made up his mind on crucial issues such as whether Congress should be asked to approve the plan as a complete package.

The NHP is the one that high level policy discussions are centering on now. It is a more sweeping national health insurance plan (NHI) than expected. There had been an inclination at HEW for a long time to adopt much more modest variations of NHI in response to Carter's frugal government campaign. The program finally settled upon at HEW reflects a significant bow to the pressures of organized labor and Senator Edward Kennedy (D.-Mass.) for a comprehensive NHI.

The Administration won't be submitting its final legislative proposal to Congress for several months. There is a possibility the plan might be worked over and changed drastically from its present form. Even HEW in its report to Carter emphasized the tentative nature of the plan's provisions.

Following is a description of the NHP proposal in which much of the language is that of the HEW Department.

The universal, mandatory national health insurance program would provide the same standard of insurance protection for all Americans through either the public or private sector. The tentative plan would maintain a pluralistic system of health services financing, yet assure that all Americans would have insurance coverage.

The plan would establish a federal insurance program — healthcare — under which people would be covered by either NHP or by private insurance plans meeting federal standards. Employers would be required to purchase coverage for employees from NHP or private plans would be covered for the same standard benefit package and treated equally by health service providers, because all insurance plans would reimburse pro-

viders at the same rates. Comparability between public and private plans in benefits and rates of payment to providers would be achieved through standards governing benefits offered by private plans and their rates of payments to hospitals, physicians and other health service providers. Providers would have no reason to distinguish between persons enrolled in different insurance plans because all financial transactions would occur between providers and insurance plans, rather than providers and patients; and all plans would pay the same amount for a given service.

The benefit package for all plans would include hospital, physician, outpatient, laboratory and x-ray services, a complete prevention package as well as limited coverage of mental health, alcoholism and drug abuse services and outpatient drugs.

Under one set of provisions, the HEW Secretary working with a provider rate negotiation board, would annually set payment rates for all services covered under the plans at levels calculated to meet a spending target established by the Congress. Hospitals would be reimbursed prospectively.

Under an alternative set of provisions, fee schedules would be established for physicians and expense limits for hospitals. This approach would be more evolutionary and fee schedules and expense limits could be set at the state or local level initially.

The "National Health Plan" or NHP system would be financed through a combination of premiums, current medicare payroll tax payments and federal general revenues.

A federal reinsurance fund would serve to equalize the cost of exceptionally high expenses among private insurance plans and NHP. The reinsurance fund would assume responsibility for any individual expenditure in excess of \$50,000. Reinsurance would be financed through federal general revenues.

* * * *

A health advisory group of the Republican National Committee has rejected any program of federally-financed, federally-administered national health insurance, calling instead for "appropriate steps" to provide for the uncovered poor and those threatened by catastrophic expenses.

The report was filed by the Health Subcom-

mittee of the GOP Committee's Advisory Council on Human Concerns. Heading the panel was former Pennsylvania Senator Hugh Scott.

The efforts of the Carter Administration and the Kennedy-Labor wing to impose a sweeping NHI program were assailed in the Republican Committee's report, "A Statement on Health Policy."

Some Democratic members of Congress have proposed a \$300 billion NHI, noted the document. "At a time when a workable national health policy is essential all we hear from the President is vicious attacks on our medical professionals and a set of 10 principles for national health insurance which considers the details of cost and coverage without addressing the question of why a totally federalized national health insurance program is needed at all," asserted the GOP panel.

Recommended was "a system which would build on and strengthen the private insurance protections which now cover more than 80 percent of the population rather than tearing that down."

* * * *

President Carter has told Congress that it must act this year on the Administration's hospital cost containment proposal.

In his State of the Union speech, Carter said, "There will be no clearer test of the commitment of this Congress to the anti-inflation fight than the legislation I will submit again this year to hold down inflation in hospital care."

The Administration has decided to abandon its original goal of a mandatory federal ceiling on hospital expenditure increases in favor of a fall-back position in which controls would be imposed only if the voluntary effort to restrain increase fails to keep expenditures within certain limits.

The plan faces a tough fight in Congress where the general mood is in opposition to controls, even stand-by controls. The Senate approved a watered-down version of the Administration plan in the last few days of the previous Congress, but the House refused to act.

HEW Secretary Califano gave the picture a new twist with a request that hospitals next year limit their expenditure increase to 9.7 percent.

The HEW proposed guideline was attacked immediately as "totally unrealistic and based on assumptions which we believe are unreasonable,"

by the Federation of American Hospitals.

The American Hospital Association quickly joined the attack with the statement that a 9.7 percent cap would "absolutely endanger our ability to take care of patients." "Now that we (Voluntary Effort program) have mounted an obviously successful program — it is being ignored with the unfortunate introduction of a new mechanism," AHA President Alexander McMahon said.

The National Steering Committee of the Voluntary Effort (VE) passed a resolution reaffirming the VE's goals and program in protest to the HEW goals of 9.7 percent. "We view the VE as a more effective mechanism for reducing inflation in the health care industry, for serving the nation's health care needs, and for helping achieve the overall objectives of the President's anti-inflation program for the economy," the Committee said.

The Steering Committee generally supported President Carter's voluntary anti-inflation program, but it rejected the HEW hospital guidelines "as being inconsistent with both the President's program and the Voluntary Effort. The HEW guidelines pose a threat to the continued development of needed hospital services. They are unrealistic and unnecessary."

Califano's bandying about of figures sharply disrupted by hospitals underscored the hospital's chief fear about a standby program — that the hostile Administration would jiggle statistics to trigger federal controls under a standby plan.

Officials of the Voluntary Effort made no bones about their displeasure with Califano's incessant assaults on the private sector's efforts to restrain increases voluntarily. "The fact is that Califano just can't stand the success of voluntarism," said Dr. James Sammons, AMA executive vice president.

Califano last year belittled the VE's program and contended it could not accomplish its mission of reducing the rate of hospital inflation by two percentage points. He unsuccessfully urged Congress to approve the Administration's highly controversial hospital cost containment plan recommending a mandatory "cap" of about 10 percent.

Dr. Sammons called the Califano 9.7 percent target figure "... a hip shot, a seat-of-the-pants figure" that would lead to an effective rationing of care. "... the American people would be

against it and they would tell Congress. Yes, we would beat them (the Administration) again, if such a proposal were introduced," Dr. Sammons said.

Robert Hunter, M.D., AMA chairman of the board of trustees and VE Steering Committee member, noted that in response to calls for restraint from the AMA, the 1978 rate of increase in physician fees was less than the consumer price index for all items. "This represents a voluntary and responsible reaction by the profession demonstrating citizens' responsibility," said Dr. Hunter.

VE goals are aimed at narrowing the gap between the rate of increase in hospital expenditures and the rate of increase in the gross national product. The primary goal is to reduce the rate of hospital expenditure increases by four percentage points during 1978 and 1979, from 15.6 percent (1977) to 11.6 percent this year.

"We reaffirm that goal and have said publicly on a number of occasions that hospitals expect to meet that goal in spite of the continued growth of inflation in the general economy," said the Steering Committee.

The figures show that for the first ten months of 1978, hospital expenditures increased at a rate of 12.9 percent, down from 16.0 percent for the first ten months of 1977.

"This decrease represents a savings of more than \$1.3 billion for the nation and demonstrates that the voluntary effort can work effectively without any compromise in the quality or availability of health care services," according to the Committee.

* * * *

Here's how physicians' fees compared with other price changes in 1978.

The annualized rate of growth of physicians' service prices for 1978 as a whole (8.0 percent) was less rapid than either the all items (9.1 percent) or the all services (9.7 percent) indices of the consumer price index.

For 1978, the 8 percent annualized rate of growth of physicians' service prices was lower than the rate of growth for the medical care index (8.2 percent), or the medical care services index (8.6 percent). The physicians' service rate (8.0 percent) exceeded the rate of increase for prescription drugs (7.3 percent), dentists' services (6.6 percent), and medical care commodities (6.8 percent).

Published CPI data are available for only the

first nine months of calendar year 1978. However, data are complete for the federal fiscal year, which runs from October through September. The figures presented here are for the federal fiscal year, 1978.

For fiscal year (FY) 1978, physicians' fees rose at a lower rate than the "all items" index, or the "all services" index (7.7 percent versus 8.0 percent and 8.7 percent, respectively).

For FY 1978, physicians' fees rose at about the same rate as the medical care index (7.7 percent for physicians' fees and 7.6 percent for medical care). Also, physicians' fees rose more rapidly than dentists' fees (6.1 percent) and prescription drugs (7.3 percent) and not as rapidly as hospital semi-private room charges (9.9 percent).

The annual rate of growth of physicians' fees fell in FY 1978 to 7.7 percent from the FY 1977 rate of 8.8 percent. This represents a 12.5 percent decrease in the rate of growth.

Physicians' fees rose at a greater rate than prices in the economy as a whole in FY 1977 and at a lower rate than prices in the economy as a whole in FY 1978.

* * * *

The AMA has expressed concerns about reductions in federal funding for human services programs, biomedical research, and medical education in the President's proposed 1980 budget.

"The AMA recognizes the desirability for the President, in his proposed Fiscal Year 1980 budget, to reduce federal expenditures. However, the Association is concerned over shifts in funding allocations for some health programs," said Whalen M. Strobhar, AMA senior vice president.

For example, the President has recommended \$5.5 million less for the Maternal and Child Health Care program in FY 1980 than exists in the current year's appropriation of \$380.5 million. "The President's recommendation is about \$40 million less than the amount the AMA had suggested to the Office of Management and Budget last fall," said Mr. Strobhar. "Key programs such as this one have already been badly eroded by inflation and must, at the very least, be maintained."

The Administration and Congress should give greater support to activities such as the Voluntary Effort to contain hospital costs, the efforts of Professional Standards Review Organizations (PSRO), and to efforts to eliminate fraud and

waste in federal programs, according to the AMA statement.

"The AMA is also concerned that funding for programs in fundamental biomedical research and disease prevention will prove to be inadequate, and that the budget does not provide adequate support for the education of those who provide medical and health services," Strobhar said. "We will continue to analyze the budget, and will offer further views on specific programs as appropriate."

* * * *

Reacting strongly to the President's budget message, the Association of American Medical Colleges (AAMC) warned that medical education may become confined to the wealthy if the Carter Administration succeeds in chopping federal aid.

John A. D. Cooper, M.D., AAMC president, said the Carter Administration budget would cut broad medical educational support (capitation) by 50 percent this year and eliminate it altogether next year. Federal student financial aid also would be sharply reduced.

Dr. Cooper made these remarks during testimony before the Senate Subcommittee on Health headed by Senator Edward Kennedy (D.-Mass.) during one day of oversight hearings on President Carter's health budget request for fiscal year 1980.

"We cannot understand the basis for decisions made to restrain, phase out, or abruptly eliminate programs established by the Congress and implemented by the medical centers over the past three decades," Dr. Cooper said. He contended that the budget-slashing decisions were not made on the basis of the failure of the programs to achieve their objectives.

Dr. Cooper predicted that if capitation is cut by 50 percent in 1979 and eliminated in 1980 the nation's medical schools will lose \$129 million by 1980. He said the schools would face difficulties in securing increased support from the states and would probably be forced to increase medical school tuitions in public schools by 100 percent and by 25 percent in private schools. This, he said, comes at a time when costs for medical students have already increased sharply, and would make it very difficult for minority and low income students to be able to afford a medical education.

* * * *

keeping up

Category 1 Continuing Medical Education Programs Available in Arkansas

OSTEOARTHRITIS; OSTEOPENIA; CARE OF THE NECK, SHOULDER AND BACK

Presented by Dr. William K. Ishmael, 7:00 P.M. to 9:00 P.M., MAY 1, 1979, Sparks Regional Medical Center, Fort Smith. Two hours Category I credit. Sponsored by Area Health Education Center—Fort Smith.

PEDIATRIC OTOLARYNGOLOGY

Presented by Dr. Robert W. Seibert, 8:00 A.M. to 4:00 P.M., MAY 5, 1979, University of Arkansas for Medical Sciences, Education II Building, G141A/B, Little Rock. Six hours Category I credit and 6 hours prescribed American Academy of Family Physicians credit. Fee \$35, includes luncheon. Other professional groups acceptable for registration are R.N.'s, Audiologists, and Speech Pathologists.

UROLOGY FOR THE PRACTICING PHYSICIAN

Presented by Dr. N. K. Bissada, MAY 12, 1979, University of Arkansas for Medical Sciences Campus. Program has not been finalized at this time. Brochures will be mailed to physicians nearer the course date.

MANAGEMENT OF TENDON INJURIES

Presented by Dr. Edward R. Weber, 8:00 A.M. to 4:00 P.M., JUNE 1, 1979, University of Arkansas for Medical Sciences, Education II Building (Lectures—8th floor, Room 121; Bioskills Laboratory—8th floor 111C, D). Seven hours Category I credit. Fee has not been determined at this time.

IMPROVING THE OUTCOME OF PREGNANCY—NUTRITIONAL AND ENVIRONMENTAL FACTORS

Presented by Dr. Robert W. Arrington, 8:30 A.M. to 4:00 P.M., JUNE 1, 1979, and 8:30 A.M. to 12:15 P.M., JUNE 2, 1979, DeGray Lodge, Arkadelphia, Arkansas. Nine hours Category I credit. Sponsored by the University of Arkansas for Medical Sciences. Fee has not been determined at this time.

SCIENTIFIC PROGRAM OF ARKANSAS CADUCEUS CLUB

Presented by Dr. James E. Doherty, 8:30 A.M. to 12:00 Noon, JUNE 9, 1979, University of Arkansas for Medical Sciences, Education I Building. One and one-half hours Category I credit.

RECURRING EDUCATION PROGRAMS

Unless otherwise indicated, programs are for one to one and one-half hours Category I credit.

INTER-HOSPITAL GI PROBLEMS CONFERENCE, First Monday of each month, 6:00 P.M., St. Vincent Infirmary, Little Rock.

PATHOLOGY CONFERENCE, Every Monday of each month, 3:00 P.M., Baptist Medical Center, Pathology Department, Little Rock. No fee.

PULMONARY CARE. Every Tuesday of each month, 12:00 Noon to 1:00 P.M., Baptist Medical Center, Dining Room #4, Little Rock. One hour Category I credit or AAFP prescribed credit.

INTER-HOSPITAL UROLOGY GRAND ROUNDS, First Tuesday of each month, 5:30 P.M., St. Vincent Infirmary, Little Rock.

NEUROPATHOLOGY CONFERENCE, Second Tuesday of each month, 5:00 P.M., St. Vincent Infirmary, Little Rock.

CENTRAL ARKANSAS PRIMARY CARE CONFERENCE, Second Tuesday of each month, 7:00 P.M. to 9:00 P.M., Baptist Medical Center Auditorium, Little Rock. Two hours Category I credit or two hours AAFP prescribed credit. No fee. Light meal provided.

CARDIOPULMONARY RESUSCITATION COURSE, Second Wednesday of each month, 6:30 P.M. to 10:30 P.M., Baptist Medical Center, Human Resource Development Area, Little Rock. Four hours Category I credit or AAFP prescribed credit. No fee. A light meal is served.

PULMONARY CONFERENCE, First and third Thursday of each month, 12:00 Noon, St. Vincent Infirmary, Little Rock.

MORBIDITY AND MORTALITY CONFERENCE, First Thursday of each month, 8:00 A.M. to 9:00 P.M., Baptist Medical Center, Conference Room #1, Little Rock. One hour Category I credit or AAFP prescribed credit. No fee.

As organizations accredited for continuing medical education by the Liaison Committee on Continuing Medical Education, the organizations named certify that these continuing medical education activities meet the criteria for the credit hours specified in Category I of the Physician's Recognition Award of the American Medical Association.

SURGERY CONFERENCE, Every Thursday of each month except the first Thursday, 8:00 A.M. to 9:00 A.M., Baptist Medical Center, Conference Room #1, Little Rock. One hour Category 1 credit or AAFP prescribed credit.

MEDICINE CONFERENCE, First and Third Friday of each month, 7:45 A.M. to 8:45 A.M., Baptist Medical Center, Conference Room #1, Little Rock, Arkansas. One hour Category 1 credit or AAFP prescribed credit.

CHEST CONFERENCE, Third Friday of each month, 11:50 A.M., St. Bernards Regional Medical Center, Jonesboro. Sponsored by the Area Health Education Center—Northeast, Jonesboro.

MEDICAL LECTURE SERIES, May 2, 11, 25, 1979, and June 1, 8, 22, 29, 1979. 10:50 A.M., St. Bernards Regional Medical Center, Jonesboro. Sponsored by the Area Health Education Center—Northeast, Jonesboro.

Tumor Conference, May 8, 1979, and June 12, 1979. St. Bernards Regional Medical Center, Jonesboro. Sponsored by the Area Health Education Center—Northeast, Jonesboro.

MONTHLY MEDICAL LECTURE, 7:30 P.M., May 15, 1979, Pocahontas; June 19, 1979, Walnut Ridge. Sponsored by the Area Health Education Center—Northeast, Jonesboro.

INTERESTING CASES, 11:50 A.M., May 22, 29, 1979, and June 19, 26, 1979. St. Bernards Regional Medical Center, Jonesboro. Sponsored by the Area Health Education Center—Northeast, Jonesboro.



PERSONAL AND NEWS ITEMS

Medical Staff Elections

Dr. Joe Verser, a Harrisburg Family Physician, was named Chief of Staff for the Craighead Memorial Hospital in Jonesboro for the second year.

Dr. Floyd R. Shrader of West Memphis is the new Chief of Staff of Crittenden Memorial Hospital. He is a Family Practitioner.

Doctors Relocate

Dr. Rickey R. Carson is relocating to Yellville from Blytheville. He is a Family Physician.

Dr. Daniel F. Ward has joined the staff of the Abraham Medical Center, Mountain Home. He is a Family Practitioner in association with Dr. K. Simon Abraham. Dr. Ward was formerly with the Flippin Clinic.

Doctor Speaks

Dr. Ben Saltzman recently addressed the Rotary Club in Sheridan. He spoke of the progress of the University of Arkansas College of Medicine and the efforts being made to provide the type of doctors needed in the State.

Physician Named

Dr. David E. Smith of Little Rock has been named a Fellow of the American College of Cardiology.

Doctor Seeks Post

Dr. George A. McCrary of Jacksonville is running for a position on the Pulaski County Board of Education.

Physician Retires

Dr. L. A. Whittaker of Fort Smith retired in March from the position of Public Health Officer for Sebastian County.

Doctors Locate

Drs. Cuong Trinh and Dao Kieu have opened a new satellite clinic in Hermitage, under the auspices of the CABUN rural health services of Hampton. They are Family Physicians serving with the National Health Service Corps.

Dr. James D. Perkins is in Family Practice at the Calhoun County Clinic in Hampton.

Honors for Internists

The Arkansas Society of Internal Medicine will receive, in April 1979, a special recognition award for revitalization. The Arkansas award is one of four special awards given annually by the American Society of Internal Medicine.

Dr. Jack L. Blackshear of Little Rock, president of the Arkansas Society has been appointed to a Task Force for Internal Medicine Manpower of the American Society of Internal Medicine.

THINGS TO COME

REPRODUCTIVE MEDICINE SYMPOSIUM

The University of Tennessee for the Health Sciences College of Medicine will sponsor the Fourth Annual Reproductive Medicine Symposium on "Use of Sex Steroids in Clinical Practice" May 7-9, 1979, at the Holiday Inn—Rivermont in Memphis. The course is approved for 20 Cognate Hours ACOG, 25 prescribed hours AAFP, and 25 Category I Physician's Recognition Award AMA. For further information, contact the Division of Continuing Education at the University of Tennessee, 800 Madison Avenue, Memphis 38163.

ARKANSAS CHAPTER, AMERICAN COLLEGE OF SURGEONS

The Arkansas Chapter of the American College of Surgeons will meet June 7-8-9, 1979, at the Red Apple Inn, Eden Isle. Room reservations should be made directly with the Red Apple Inn. Interested Physicians are invited to attend. Further information may be obtained from the Chapter Secretary, Dr. Larry Lawson, Post Office Box 1208, Fort Smith, Arkansas 72902. Non-member registration is \$25.

UROLOGIC ONCOLOGY SEMINAR

The University of Texas System Cancer Center, M. D. Anderson Hospital and Tumor Institute, will present the Fourth Annual Urologic Oncology Seminar July 12-14, 1979, at the Shamrock Hilton Hotel in Houston. The program meets criteria for 18 hours Category I credit for AMA Physician's Recognition Award. For additional information, write Department of Urology at M. D. Anderson Hospital, 6723 Bertner, Houston 77030.



NEW MEMBERS

Dr. David B. Allison is a new member of the Ashley County Medical Society. Dr. Allison was born in Syracuse, New York. He attended Queen's University where he received a B.A. degree. He received his medical education at Queen's University Faculty of Medicine, Kingston, Ontario. His internship was at Kingston General Hospital. He also completed a residency at Kingston General and Hotel Dieu Hospitals in Kingston.

Following his residency, Dr. Allison was in Family Practice in Kingston until 1978, when he came to Arkansas. He is in Family Practice at the Family Clinic, 310 North Alabama, Crossett.

Dr. Pairojana Sinlaratana is a new member of the Chicot County Medical Society. He is a native of Bangkok, Thailand. He attended the Faculty of Medical Science, Mahidol University, in Bangkok for his pre-medical education. He received his medical degree in 1966, from the Siriraj Medical School at Bangkok. Dr. Sinlaratana served his internship at Jersey City Medical Center. He had residency training at Bronx Lebanon Hospital center, Bronx, New York; North Shore University Hospital, Long Island, New York; and the Medical College of Virginia at Richmond.

Dr. Sinlaratana is board certified in Internal Medicine and Hematology. He is a member of the American Society of Hematology and the American College of Physicians.

The location of Dr. Sinlaratana's practice is 2420 North Highway 65, Eudora.

The Craighead-Poinsett County Medical Society has added *Dr. Richard Albert Blair* to their membership roll. Dr. Blair was born in Lexington, Kentucky. In 1955, he received his B.S. degree from Clemson University. He attended the University of Louisville School of Medicine for his medical education, receiving his M.D. degree in 1959. His internship training was at Saints Mary and Elizabeth Hospital in Louisville. He served his residencies at St. Joseph Hospital, Louisville, and Louisville General Hospital. Between his two residencies he served in the U. S. Army in El Paso, Texas, where he practiced General Surgery and Orthopedics.

Before coming to Arkansas, Dr. Blair practiced in Paducah, Kentucky, for five years and in Louisville, Kentucky, for five years. He was a Clinical Assistant Professor of Obstetrics and Gynecology in Louisville, from 1971 to 1976. In April 1977, he became Professor and Chief of the Department of Obstetrics and Gynecology at the University of Tennessee.

Dr. Blair is board certified in Obstetrics and Gynecology. He is in practice at 505 East Matthews, Jonesboro.

Dr. Anibal R. Hadad is a new member of the Lawrence County Medical Society. He is a native of Argentina.

Dr. Hadad attended "Dean Funes" National College Cordoba and Cordoba National University, both in Argentina, for his pre-medical education. He received his medical degree in 1970, from Cordoba National University School of Medicine. He interned and had residency training at the University of Arkansas Medical Center.

Dr. Hadad is in the practice of General Surgery at 421 Southeast Third Street, Walnut Ridge.

The Johnson County Medical Society has added *Dr. Richard Earle McKelvey* to its membership roll.

Dr. McKelvey was born in Little Rock. He was graduated in 1964, with a Bachelor of Science degree, from Hendrix College. In 1965, he received a Master of Science degree from the University of Arkansas. He then attended the University of Arkansas School of Medicine and was graduated in 1969.

Dr. McKelvey interned at the University of Tennessee—City of Memphis Hospital. He then served in the Air Force for two years, stationed at Blytheville Air Force Base. He received his resi-

dency training at the University of Arkansas Medical School.

Dr. McKelvey is a General Surgeon in practice at 416 Sevier Street, Clarksville.

The Sevier County Medical Society has added two new members to its rolls:

Dr. Joseph Bennett Pierce. Dr. Pierce is a native of Pine Bluff. He attended Arkansas A & M College and received a Bachelor of Science degree in 1968. In 1977, he received his medical degree from the University of Arkansas School of Medicine, where he also interned.

Dr. Pierce is in General Practice at the Town North Professional Building, DeQueen, Arkansas.

Dr. Richard Stephen Ridlon. Dr. Ridlon was born in Denton, Texas. He received a B.A. degree from North Texas State University, in Denton. He received his medical degree in 1975 from the University of Texas Medical Branch at Galveston. He completed a three year residency in Family Practice at the University of Arkansas for Medical Sciences.

Dr. Ridlon is certified by the American Board of Family Practitioners. He is in Family Practice and Emergency Medicine at DeQueen General Hospital.

Dr. Tom Tvedten is a new member of the Chicot County Medical Society. He was born in Johnstown, Pennsylvania. He attended Louisiana State University and the University of Arkansas at Little Rock for his pre-medical education. He received his M.D. degree from the University of Arkansas School of Medicine in 1977. His internship training was received from St. Vincent Infirmary, Little Rock.

Dr. Tvedten is in General Practice at Lake Village Clinic, Highway 65 and 82, Lake Village.

Dr. Karl E. Humiston has become a member of the Benton County Medical Society. He is a native of Oak Park, Illinois. After receiving a B.A. degree from Stanford University, he attended Harvard Medical School, Boston, Massachusetts, receiving his M.D. degree in 1965. Dr. Humiston interned at King County Hospital, Seattle, Washington. He had residency training at the Veterans Administration Hospital, Seattle, and the Southern General Hospital, Glasgow, Scotland. He was on active duty with the United States Naval Reserve from 1959 to 1961.

Dr. Humiston is on the staff of Eastern State Hospital in Vinita, Oklahoma, and practices part

NEW MEMBERS

time in Sulphur Springs. He is a board certified Psychiatrist.

Dr. James T. Howell. A new member of the Sebastian County Medical Society, Dr. Howell is a native of Memphis, Tennessee. He received a B.A. degree in 1966 from Hendrix College. In 1970, he received his medical degree from the University of Arkansas School of Medicine. His internship was at Tampa General Hospital, Tampa, Florida. The Children's Medical Center in Dallas is where he received his residency training. He served in the United States Air Force from 1971 to 1973.

Dr. Howell had a fellowship in Allergy-Clinical Immunology at the University of Texas Medical Branch, Galveston, Texas. He is board certified in Pediatrics.

Dr. Howell practices Allergy-Clinical Immunology at 1420 South "I" Street, Fort Smith.

Dr. Andrew E. David has been added to the membership roll of the Drew County Medical Society. He received his pre-medical education from Henderson State University, Arkadelphia. He served in the United States Army from 1966 to 1969. Dr. David attended the University of Arkansas School of Medicine, receiving his medical degree in 1975. He had a three year Family Practice residency at the University of Arkansas Medical Center. He is a member of the American Academy of Family Practice.

Dr. David is in Family Practice at 750 H. L. Ross Drive, Monticello.

The Pulaski County Medical Society has added four new members to its roll:

Dr. Eugene F. Binet is a native of St. Paul, Minnesota. After receiving his B.S. degree from the College of St. Thomas in St. Paul in 1958, he attended the University of Minnesota Medical School, graduating in 1962. He interned at St. Mary's Hospital, Minneapolis. His residency was in Neuroradiology at the University of Minnesota Hospital, Minneapolis.

Dr. Binet is Vice Chairman of the Department of Radiology at the University of Arkansas College of Medicine. He is board certified in Radiology. He is a member of the American Society of Neuroradiology, American Roentgen Ray Society and Radiological Society of North America.

Dr. Binet is a Neuroradiologist practicing at the Veterans Administration Hospital in Little Rock.

Dr. Carlos Adolfo Araoz is a native of Argentina. He received his pre-medical education from Colegio Nacional "San Martin", Mendoza, Argentina. He received his M.D. degree in 1961 from the University Cuyo Medical School, Mendoza. He interned at the University of Oklahoma Medical Center in Oklahoma City. He had residency training at the University of Chicago and Albert Einstein College of Medicine, New York.

Dr. Araoz is a member of the Academy of Pathologists and the American Association of Neuropathologists. He is board certified in Pathology and Neuropathology.

Dr. Araoz is in practice at St. Vincent Infirmary, Little Rock.

Dr. Joanna J. Seibert was born in Richmond, Virginia. After attending the University of North Carolina in Greensboro, she attended the University of Tennessee College of Medicine, Memphis, receiving her M.D. degree in 1968. She interned at the University of Tennessee and received residency training there in Pediatric Radiology. Dr. Seibert then had two years of residency training in Radiology at the University of Iowa Hospitals and Clinics, Iowa City.

Dr. Seibert is a member of the Radiographic Society of North America, American College of Radiology, Society for Pediatric Radiology, American College of Chest Physicians, Central Arkansas Pediatric Society, and the Midwest Society of Pediatric Radiology. She is board certified in Radiology.

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Dr. Rodney Allen Roe was born in Tulsa, Oklahoma. He attended Arkansas Polytechnic College in Russellville for his pre-medical education. He then attended the University of Arkansas School of Medicine, receiving his M.D. degree in 1968. He received his internship and residency training at St. Joseph's Hospital in Phoenix, Arizona.

Dr. Roe was on the Clinical Faculty at the University of Tennessee for four years. Before coming to Arkansas, he was associated with the Duckworth Pathology group, Methodist Hospital, Memphis. He is a member of the American Society of Clinical Pathology and the College of American Pathologists.

Dr. Roe is a board certified pathologist practicing at 500 South University, Little Rock.



OBITUARY

Dr. William W. Biggs

Dr. William W. Biggs of Helena died February 27, 1979. He was a radiologist at the Helena Hospital.

Dr. Biggs was born in Gary, Indiana, June 17, 1930. He attended the University of Tennessee in Knoxville, and received his medical degree in 1953 from the University of Tennessee College of Medicine, in Memphis.

Dr. Biggs was a member of the medical association on the county, state and national level, the American College of Radiologists and the Radiological Society of North America.

Dr. Biggs is survived by his wife, Mrs. Eloise R. Biggs, a son and a daughter.

Dr. Paul G. Henley

Dr. Paul G. Henley died February 8, 1979, following a long illness. He practiced general surgery in El Dorado.

Dr. Henley was born July 20, 1916, in Reader, Arkansas. He received his medical degree from the University of Arkansas School of Medicine in 1944. He received additional medical training at the University of Michigan Graduate School of Medicine, University of Pennsylvania Graduate School of Surgery, Mt. Carmel Mercy Hospital of Detroit, and Lankenam Hospital of Philadelphia. He served with the United States Army Medical Corps during World War II.

Dr. Henley had served as an area consultant for the Vocational Rehabilitation Center.

Dr. Henley was a member of the Union County Medical Society, Arkansas Medical Society and American Medical Association. He was a fellow of the American College of Surgeons and a diplomat of the American Board of Surgery. He was also very active in civic affairs.

Dr. Henley is survived by his wife, Mrs. Francylle Riley Henley, and two daughters.



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Congenital Diethylstilbestrol-Associated Vaginal/Cervical Adenosis (DES Babies)

David L. Barclay, M.D.*

Clear cell adenocarcinoma of the vagina was diagnosed in seven young women, 15 to 22 years of age, between 1966 and 1969, on the gynecologic service at Massachusetts General Hospital. The diagnosis had never before been made in a patient less than 30 years of age. An epidemiologic study of these cases revealed an apparent association with maternal ingestion of Diethylstilbestrol (DES) during the first trimester of pregnancy.⁷ The drug had been administered to the mothers because of a previous abortion or bleeding during the first trimester of pregnancy.

DES was synthesized in 1938, and it was used from the mid-1940's to 1970 in the treatment of threatened abortion. A Registry of Clear Cell Adenocarcinoma of the Genital Tract in Young Females was established in 1971. After 27 cases had been reported to the Registry, the Food and Drug Administration issued a warning that DES and chemically related nonsteroidal estrogens were contraindicated during pregnancy.

By 1976, 302 cases of clear cell adenocarcinoma of the vagina or cervix had been reported to the Registry.¹ Fifty-one percent of patients had a positive history of DES or similar compound ingestion by the mother during pregnancy. The history in the rest was negative, uncertain, or an unidentified medication had been taken by the mothers.

It has been estimated that one to ten percent of pregnant women were exposed to DES in the United States from 1951 to 1953. Another estimate was that about 100,000 to 160,000 live-born female infants were exposed to DES in utero between 1960 and 1969, which is an exposure rate of 0.6 to 1.0 percent. The risk of a DES exposed

female developing adenocarcinoma of the cervix or vagina by age 24 is approximately 0.14 to 1.4 per thousand; therefore, even exposed young women experience a relatively low risk. These cancers were diagnosed in girls between the age of 14 and 23 years with a peak incidence at age 19. These data suggested that DES is an incomplete carcinogen and additional factors are necessary to initiate carcinogenesis.

Genital deformities and abnormalities noted in these young women appear in structures derived from the Mullerian ducts. Approximately twenty percent of these patients will be found to have a deformity of the upper vagina or cervix, usually described as ridges or hoods, which are situated on or in apposition to the cervix. Abnormal, columnar epithelium will be found on the cervix or upper vagina in approximately 95 percent of patients (vaginal or cervical adenosis). Vaginal adenosis is found in about 75 percent of patients whose mothers were exposed to DES therapy in the eighth week of gestation or earlier; whereas, if the exposure occurred after the 17th week, only about seven percent of patients will demonstrate this finding. A high incidence of abnormalities occurring in the uterus and oviducts in association with gross changes in the upper vagina and cervix has recently been reported.³

Asymptomatic girls who were exposed to DES in utero should receive a complete pelvic examination at menarche or by age 14 years.² Younger girls should be examined if they develop abnormal vaginal bleeding or discharge. The examination should consist of a thorough inspection and palpation of the entire length of the vagina and the cervix. A Papanicolaou smear should be obtained by scraping the cervix and the vaginal wall in the pericervical area. The entire cervix

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and vagina should be stained with iodine, and a biopsy should be taken from an area that does not take the iodine stain. In very young patients who have symptoms, an anesthetic may be required to perform a thorough examination. Colposcopy is not absolutely essential; however, it can be helpful in identifying areas of glandular tissue on the cervix or vagina, and a directed biopsy can be performed.

If the initial examination is normal, a yearly examination with cervical and vaginal cytology and iodine staining of the entire cervix and vagina are probably adequate. If an abnormality is found, follow-up examinations every three to six months should be recommended. To date, all adenocarcinomas of the cervix or vagina have been diagnosed at the first examination; none have developed in areas of adenositis and then been detected by subsequent examinations. The ratio of vaginal to cervical adenocarcinomas is approximately two to one.

Areas of cervical and vaginal adenositis appear to undergo squamous metaplasia.⁵ In many patients the adenositis is completely replaced by squamous epithelium in less than five years after diagnosis. This process may be accelerated by acidification, topical progesterone, or cauterization. The sequence is comparable to squamous epithelialization in the cervix, which is a normal process during maturation. Whether or not this metaplastic epithelium is prone to undergo dysplastic changes as occasionally occurs in the cervix is not clear. The incidence of severe squamous metaplasia, carcinoma in-situ, or even invasive cancer has not been established; two cases of invasive squamous cancer have been re-

ported to date but could very well be a coincidental finding.⁴ Dysplastic epithelium, which is often difficult to differentiate from active metaplasia, should be treated by cryosurgery or excision.

Therapy of those young women who have adenocarcinoma has not been standardized. Either surgery or radiotherapy can potentially cure the disease; the question is the extent or radicality of treatment in a given patient.^{6,8} Treatment is individualized and should be administered by a physician experienced in treating gynecologic malignancies. The prognosis is directly related to the stage of the disease when diagnosed.

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Twin Pregnancy: A Review of 214 Cases

D. Richard Johnson, M.D., and Byron L. Hawks, M.D.*

Multiple pregnancy is associated with a higher incidence of low birth weight infants than single pregnancy and, consequently, increased perinatal morbidity and mortality rates. Infants with low one and five minute Apgar scores, especially in association with low birth rates, apparently have an increased incidence of neurologic abnormalities.^{1,2} A good correlation between neonatal asphyxia and the one minute Apgar score has been shown.^{3,4} The association of Apgar scores and neonatal morbidity has been commented upon previously.⁵ The purpose of this review is to evaluate twin deliveries with particular interest in second twin outcome.

In the eight year period January 1, 1970 to December 31, 1977 there were 214 cases of twin pregnancies among 22,747 deliveries at the UAMS, giving a ratio of 1:106. All patients delivering at or after the twentieth week of gestation are represented.

Results

The overall incidence of prematurity was naturally very high. The definition of prematurity in this series is: "A pregnancy of less than 36 weeks and/or one or both infants are under five pounds in weight." In all, 144 of the 214 cases terminated prematurely, an incidence of 67 percent.

The total fetal wastage (stillbirths and neonatal deaths) amounted to 61 out of 428 infants delivered, an uncorrected incidence of 14.3 percent (two percent for single births). There were 28 first twin deaths (13 percent) and 33 second twin deaths (15.4 percent). In 22 cases both twins died either prenatally or neonatally. Forty-seven infants that died were less than 1500 grams. There were 21 stillborns, only five of which were more than 1500 grams.

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There were 63 C-Sections out of 214 cases for a 29.4 percent incidence compared to a 10 to 12 percent C-Section rate for single births. The indications for C-Sections in order of decreasing frequency were: 1) repeat C-Section, 2) 1° breech for first infant, 3) severe pre-eclampsia, 4) PROM with failed induction, 5) fetal distress, 6) CPD, 7) transverse lie first infant, 8) prolapsed cord with first infant breech, 9) Ca in-situ, 10) miscellaneous including ruptured uterus, locked twins, Rh disease, trapped second twin, abruption placenta, etc.

There were ten infant deaths of the ones delivered by C-Section for an uncorrected rate of 7.9 percent. Of these, two were macerated stillborns and two were IUFD's secondary to a ruptured uterus at 32 weeks; one first infant was an IUFD secondary to prolapsed cord upon admission; four were less than 1000 grams (two of which had severe Rh disease), and one infant died of bowel obstruction in the nursery. Thus, the corrected death rate for twins born by C-Section approaches that of single gestations in this institution.

Table I shows the number of infants born vaginally and by C-Section according to weights, along with the number and percent of perinatal deaths. 16.9 percent of the infants delivered vaginally died vs 7.9 percent of those delivered by C-Section. There is a decreasing death rate as the weight of the infants increases in vaginal and C-Section deliveries.

Table II shows the proportion of first and second twins delivered by C-Section and vaginally along with perinatal deaths. There is no statistical difference in the death rates of first and second twins born by C-Section at any of the different weight groups. If you disregard the infants weighing less than 1000 grams, the second twin

TABLE I

Wt in Gms.	# Infants	Vaginal Deliveries		# Infants	C-Section	
		Perinatal Deaths	%		Perinatal Deaths	%
1000 gms.	35	25	71.4	4	4	100
1000-1499 gms.	31	15	49.4	11	3	27
1500-2499 gms.	138	9	6.5	54	1	1.7
2500 gms.	98	2	2.0	52	2	3.8
Total	302	51	16.9	126	10	7.9

born vaginally has a significantly higher mortality than the first twin for all weight groups. Again, the death rate drops as the infant weight increases for both the first and second twins.

Table III shows the number of first and second twins delivered by each method along with perinatal mortalities. Twenty and four/tenths percent of all second twins delivered with vertex presentation died versus 14.2 percent of first twins delivered vertex. Twenty-one and eight/tenths percent of second twins delivered by breech presentation died versus 19.4 percent of first twins. Thirteen and eight/tenths percent of first twins died compared to 15.4 percent of second twins. The mortality rate of first twins was increased significantly if the infant presented breech rather than vertex (19.4 percent vs 14.2 percent).

Only 12 percent of version and extraction second twins died. This lower incidence is felt to be due to the fact that V & E infants had larger birth weights on the whole. These infants had lower one minute APGAR scores, but were resuscitated and had higher survival rates because they were more mature. Thirty-three out of 42 V & E second twins were > 1500 gms. The smaller infants seem to descend more into the pelvis and be delivered by breech presentation. However, sixty percent of V & E deaths weighed > 1500 gms,

whereas the vast majority of infant deaths were < 1500 gms for all other methods of delivery.

All of these death rates are high due to prematurity. Only 14 out of 61 infant deaths in this series weighed > 1500 gms and five out of these 14 were IUFD's upon admission. Of the nine infants weighing > 1500 gms that were born alive and later expired two were first twins and seven were second twins (three of which were delivered by V & E).

Table IV shows the mortality by weight and type of delivery.

Tables V and VI show the number of infants having poor APGAR scores (0-3), fair scores (4-6), and good scores (7-10) at one and five minute by weights for different methods of delivery. It is shown that there is a higher incidence of poor and fair APGAR scores among lower-weight infants. There is a much higher incidence of low scoring APGAR's (equal or less than six at one minute) in second twin versus first twin (74.8 percent compared to 25.8 percent with vaginal delivery; 23.8 percent versus 14.2 percent with C-Section). Twenty-one and seven/tenths percent of first twin delivered vaginally by vertex presentation had APGAR scores equal to or less than six at one minute whereas 37 percent of second twins were vertex presentation had poor or fair APGAR's.

TABLE II

Wt in Gms.	Vaginal Delivery				C-Section			
	First Twin		Second Twin		First Twin		Second Twin	
	# of Infants	Perinatal Deaths (%)	# of Infants	Perinatal Deaths (%)	# of Infants	Perinatal Deaths (%)	# of Infants	Perinatal Deaths (%)
1000 gms.	18	14 (77.8)	17	11 (64.7)	2	2 (100)	2	2 (100)
1000-1499 gms.	14	6 (42.9)	17	9 (52.9)	4	1 (25)	7	2 (28.6)
1500-2499 gms.	67	3 (4.5)	71	6 (8.5)	29	1 (3.4)	30	0 (0)
2500 gms.	52	0 (0)	46	2 (4.3)	28	1 (3.6)	24	1 (4.2)
Total	151	23 (15.2)	151	28 (18.5)	63	5 (7.9)	63	5 (7.9)

TABLE III

	First				Second			
	# Infants	Deaths	Percent		# Infants	Deaths	Percent	
Spontaneous delivery vertex	75	13	17.3	} 14.2%	34	9	26.5	} 20.4%
ELF	44	4	9.1		19	1	5.3	
Mid Forceps	1	0	0	} 19.4%	1	1	100	} 21.8%
Assisted breech	28	5	17.9		33	6	18.2	
Breech extraction	3	1	33.3		22	6	27.3	
V & E	0	0	0		42	5	12.0	
C-Section	63	5	7.9		63	5	7.9	
Totals	214	28	13.8%		214	33	15.4%	

When the first infant was breech presentation 41.9 percent had low scores compared with 50.9 percent of second twin. Of the second twins born by V & E 63.4 percent had APGAR scores equal to or less than six at one minute. Fifty and three/tenths percent of all infants delivered vaginally had low one minute APGAR scores versus 19.0 percent of all infants delivered by C-Section. Ten percent of single birth infants had APGAR scores of 0-6 at one minute during this same time period.

The same trend is present for five minute APGAR's as well. Twenty-five and two/tenths percent of second twins versus 17.9 percent of first twins have APGAR scores 0-6 at five minutes when delivered vaginally. Fourteen and three/tenths percent of second twins versus 7.9 percent of first twins when delivered by C-Section. Twenty-one and five/tenths percent of all twins delivered vaginally have low APGAR scores compared to 11.1 percent of all twins delivered by

TABLE IV

	Spontaneous Vertex		ELF		Mid Forceps		Assisted Breech		Breech Extraction		V & E		C-Section	
Wt. Gms.	1st	2nd	1st	2nd	1st	2nd	1st	2nd	1st	2nd	1st	2nd	1st	2nd
< 1000	9	4	2	1	0	0	2	2	1	3	0	1	2	2
1000-1499	4	2	1	0	0	1	1	3	0	2	0	1	1	2
1500-2499	0	2	1	0	0	0	2	1	0	0	0	3	1	0
> 2500	0	1	0	0	0	0	0	0	0	1	0	0	1	1
Total	13	9	4	1	0	1	5	6	1	6	0	5	5	5

TABLE V
First Twin

	Apgar 1 Min.	0 - 3 5 Min.	4 - 6 1 Min.	5 Min.	7 - 10 1 Min.	5 Min.	# Infants
Spontaneous vertex, ELF and mid forceps							
< 1000	9	9	2	2	2	2	13
1000-1499	2	2	3	4	7	6	12
1500-2499	1	3	6	0	44	48	51
> 2500	1	1	2	1	41	42	44
Total	13	15	13	7	94	98	120
Spontaneous breech							
< 1000	4	4	1	0	0	1	5
1000-1499	0	0	1	0	1	2	2
1500-2499	0	0	2	0	11	13	12
> 2500	1	0	2	0	5	8	9
Total	5	4	6	0	17	24	28
Breech extraction							
< 1000	1	1	0	0	0	0	1
1000-1499	0	0	0	0	0	0	0
1500-2499	0	0	0	0	1	1	1
> 2500	0	0	1	0	0	1	1
Total	1	1	1	0	1	2	3
C-Section							
< 1000	1	0	0	1	0	0	1
1000-1499	1	1	1	0	2	3	4
1500-2499	2	1	3	1	26	29	31
> 2500	1	0	0	1	26	26	27
Total	5	2	4	3	54	58	63

C-Section. Only four percent of single birth infants had low five minute APGAR's.

Comments

Prior reports have suggested that the prognosis for the second twin is less favorable than the first.^{7,8,9} The poorer prognosis exists for every infant when both one and five minute APGAR scores are low in association with low birth weight. The true significance of the one minute APGAR score is probably not fully understood. However, a collaborative study of over 17,000 infants showed that 23 percent of infants with a one minute score of 0-3 died and fifty percent of infants with 0-3 APGAR's at five minutes died. At one year of

age 36 percent of infants with 0-3 APGAR's at one minute were neurologically abnormal compared to 1.6 percent of infants with 7-10 APGAR scores. Seven and four/tenths percent of infants with poor five minute scores were neurologically abnormal versus 1.7 percent of infants with 7-10 APGAR's at five minutes.⁵

If it is true that an objective assessment of the APGAR score offers the clinician the simplest and most accurate means of immediately determining the status of the newborn infant, then everything reasonable and possible should be done to assure delivery of infants with good scores. Obviously, a good APGAR does not offer complete protection

TABLE VI
Second Twin

	Apgar	0 - 3	4 - 6		7 - 10		# Infants
	1 Min.	5 Min.	1 Min.	5 Min.	1 Min.	5 Min.	
Spontaneous, vertex, ELF and mid forceps							
< 1000	5	5	1	0	0	1	5
1000-1499	2	2	0	0	5	5	7
1500-2499	2	0	7	0	13	22	22
> 2500	2	1	1	1	16	17	19
Total	11	8	9	1	34	45	54
Spontaneous breech							
< 1000	2	2	1	1	0	0	3
1000-1499	3	2	0	0	0	1	3
1500-2499	2	0	6	1	11	18	19
> 2500	3	0	0	3	5	5	8
Total	10	4	7	5	16	24	33
Breech extraction							
< 1000	4	4	0	0	0	0	4
1000-1499	1	1	1	0	0	1	2
1500-2499	3	0	1	1	5	8	9
> 2500	1	1	0	0	6	6	7
Total	9	6	2	1	11	15	22
V & E							
< 1000	2	2	2	0	0	2	4
1000-1499	2	0	1	3	2	2	5
1500-2499	4	1	5	2	11	19	21
> 2500	6	0	3	5	3	7	12
Total	14	3	11	10	16	30	42
C-Section							
< 1000	1	1	1	1	0	0	2
1000-1499	3	2	2	2	2	3	7
1500-2499	1	1	4	1	25	28	30
> 2500	1	1	2	0	21	23	24
Total	6	5	9	4	48	54	63

from immediate dangers such as RDS and death, especially in low-weight infants.

Many factors play an important role in the culmination of a successful pregnancy. Anesthesia, intervals between deliveries, obstetric complications such as toxemia, adequate antepartum care, socioeconomic conditions, levels of training of the obstetrician, and other factors are important and have not been included in this paper.

However, in view of the results presented, it appears that the second twin, especially when delivered by breech extraction and V & E, more frequently arrives in poorer condition than the first infant. These methods of delivery are recognized as traumatic. C-Section maybe should be considered as an alternate method of delivery for the second twin especially when the infants are of low birth weight. Also, since the majority of the morbidity and mortality is directly related to prematurity, methods for prevention of premature labor should reduce the risk of twin pregnancy.

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Medical Grand Rounds

University of Arkansas for Medical Sciences

Tobacco and the Lung

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INTRODUCTION

The period from 1940 to 1960 has been called the golden era of pulmonary disease.¹ During this period sanitariums were closed because of effective treatment for tuberculosis. Bronchiectasis, empyema, and lung abscess decreased in incidence because of effective antibiotics. Today, the major pulmonary problems are chronic obstructive lung disease and bronchogenic carcinoma. Both are clearly related to cigarette smoking as convincingly shown in tables 1 and 2. Doll and Petro showed by following 34,000 physicians in Great Britain for 20 years that there was dose-response relationships between smoking tobacco and both chronic obstructive lung disease and bronchogenic carcinoma.² They also documented the decreased death rate in subjects who discontinued smoking.

Despite these impressive statistics Americans continue to smoke. A thorough analysis of the smoking habit is important. Thus, we would like to focus on little discussed aspects of the smoking habit: 1) aerosol deposition in the lung, 2) changes in the surface of the lung resulting from cigarette smoking, 3) dependence features of smoking, 4) future research efforts at the University of Arkansas Medical Center to decrease lung damage from tobacco.

We would especially like to emphasize the dependence features of smoking and its relationship to nicotine. The difficulty in persuading the smoker to stop even when he understands the health risks of smoking is well known. Thus, we need to analyze the "smoking habit". We would like to discuss the psychology of the acquisition, maintenance, and cessation of the "smoking habit".

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Aerosol Particle Size and Deposition

Exposure to industrial pollutants has been recognized as the cause of lung disease for centuries. In recent years, cigarette smoke has been by far the most important harmful aerosol inhaled by man. The noxious agents in cigarette smoke are contained both in the gaseous phase and in the particulate phase. The tars and nicotine in cigarette smoke are carried primarily in the particles. The size of these particles is the most important factor governing their retention in the lung.

Although particle geometric size is important, it is often inadequate for describing behavior of a particle in a moving air stream. For the purposes of deposition prediction, size is best expressed as aerodynamic diameter, a term which embodies all physical properties such as geometric size, density, shape, and surface characteristics that would affect aerodynamic behavior.³ Figure 1 illustrates how shape as well as mass is important in determining particle aerodynamic behavior. There is little information available on the

Table 1

Death Rate per 100,000 Men for Lung Cancer	
Non-Smoker	10
Cigarette Smoker	
1-14 per day	78
15-24 per day	127
> 25 per day	251
Pipe or Cigar Smokers	58
Doll and Petro. Br. Med. J. 2:1525, 1976.	

Table 2

Chronic Bronchitis and Emphysema (Annual Death Rate per 100,000 Men)	
Non-Smoker	3
Cigarette Smoker	
1-14 per day	51
15-24 per day	78
> 25 per day	114
Pipe or Cigar Smoker	28
Doll and Petro. Br. Med. J. 2:1525, 1976.	

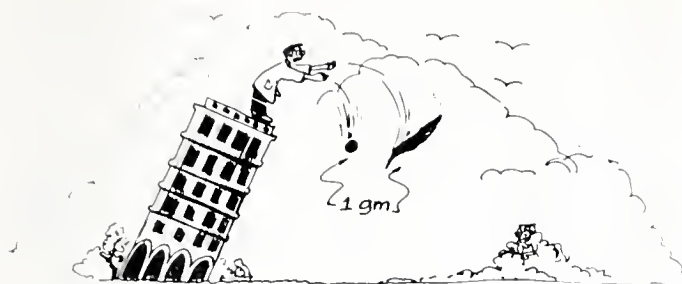


Figure 1.

This drawing illustrates the importance of considering aerodynamic characteristics. Here, the two objects have the same mass but their markedly different aerodynamic characteristics cause them to fall at different velocities.

aerodynamic size of the smoke produced by most cigarettes used today. There is furthermore little information defining the extent of particle growth, if any, which occurs at the high humidity encountered in the respiratory tract. These deficiencies are due in large part to great difficulties encountered in measuring the aerodynamic size of any aerosol.

When the aerodynamic size of an aerosol is known, it is possible to predict the site and quantity of respiratory deposition.⁴ Figure 2 shows the percent and site of deposition for particles of various sizes. Tobacco smoke particles are appropriate for pulmonary and tracheobronchial deposition since they have a mass median diameter of less than one micron.

Changes in the Surface of the Lung Resulting from Cigarette Smoking

The lungs of cigarette smokers are exposed to

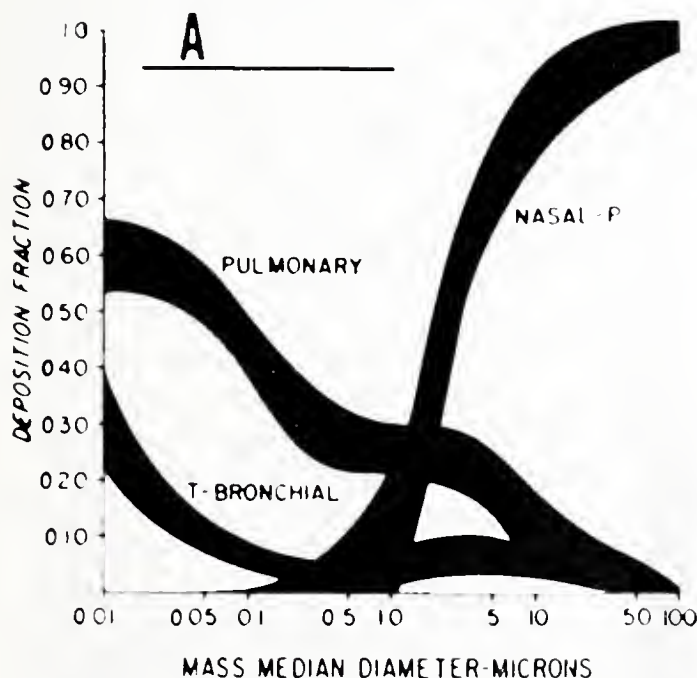


Figure 2.

The fractional deposition of particles in various sites in the respiratory tract is shown in relation to particle aerodynamic size. Cigarette smoke has a particle size of less than 1 micron and is deposited largely in the pulmonary and tracheobronchial regions of the respiratory tract.

the chemical constituents of smoke over a period of many years. The submicron particles contained in smoke are then deposited on the epithelium of the bronchi, bronchioles and alveoli. This continued exposure results in characteristic changes in the surface of the lung.

Many cigarette smokers develop hyperplasia of the mucus glands in the trachea and major bronchi.⁵ This is associated with hypersecretion of mucus and with a chronic productive cough (smokers cough). Alteration in the surface epithelium of the bronchi also occurs in smokers. Basal cell hyperplasia, squamous metaplasia and the appearance of atypical cells have been described. Frequent occurrence of carcinoma of the bronchus in smokers is well known.

Changes in the membranous bronchioles and respiratory bronchioles are of particular importance because they relate to the development of chronic obstructive lung disease. The epithelium of the membranous bronchioles consists of ciliated cells and Clara cells. The surface of the bronchiole is covered with a low viscosity fluid. Clara cells disappear in long-standing cigarette smokers and are replaced by mucus secreting cells.⁶ The presence of viscous, sticky mucus of the bronchioles can lead to obstruction.

The earliest finding in the respiratory bronchioles is the accumulation of pigmented macrophages in the lumen.⁷ The macrophages can be readily recovered by bronchial washings. Centrilobular emphysema develops as a result of the breakdown of the alveolar septa of the respiratory bronchioles and the formation of large abnormal air spaces. It is thought that the secretion of proteolytic enzymes, especially elastase, by the macrophages plays a key role in the destruction of the lung.

Pulmonary emphysema varies in severity. Mild to moderate degrees of emphysema are extremely common in long-standing cigarette smokers. Severe emphysema is rare in non-smokers unless alpha 1 anti-trypsin deficiency is present.⁸

Dependence Features of Smoking

A discussion about tobacco and the lung would be incomplete without some discussion of smoking dependence. Both the medical profession and the general public have been slow to accept that smoking is a dependent disorder. Cigarette smoking produces a physical dependence to nicotine. Physical dependence as defined by the

World Health Organization involves the presence of physiological adaptive changes. These include: 1) tolerance of the effects of the substance due primarily to changes at synapses, but also in some cases to increased capacity to metabolize and excrete the substance as a result of enzyme induction mainly in the liver; 2) withdrawal symptoms resulting from rebound overactivity at synapses when intake of the substance is reduced or discontinued. Nicotine is the only substance derived from burning tobacco which fulfills these criteria for physical dependence.

The intense subjective craving experienced during withdrawal, so long regarded by the unsympathetic as "merely psychological" is governed primarily by physiological adaptive mechanisms in the hypothalamic reward system plus changes in the peripheral autonomic system. The classic withdrawal symptoms among heavy smokers such as depression, anxiety, irritability, restlessness, intensive craving, and difficulty in concentration are frequently described subjective symptoms. More objective physical withdrawal effects have clearly been demonstrated and include sleep EEG pattern disturbance, sweating, gastrointestinal changes, drop in pulse rate and blood pressure, disturbed time perception, impaired performance under multiple situations, and EEG changes.^{9, 10, 11}

Both the subjective and objective withdrawal effects can be rapidly and predictably reversed with blinded experimental conditions with intravenous nicotine. It is of some importance that both subjective and objective effects are reported at a higher frequency and a greater intensity among female smokers. This possibly relates to the frequently observed increased difficulty of successful withdrawal from smoking among female smokers.

Because of its importance in development of smoking dependence, an additional few words about nicotine seem appropriate. Nicotine is natural alkaloid which is found in the tobacco leaf. The pharmacological actions are primarily two types. Its effect on the peripheral nervous system is a transient stimulation and then a more persistent depression of all autonomic ganglia depending upon the concentration of nicotine. Its central nervous system effect is primarily that of an overall stimulation, but at higher levels it can act as a depressant. In some areas of the brain stimulation may occur when simultaneous de-

pression can be occurring in other areas.¹² Therefore, nicotine has the potential, depending upon the manipulation of its concentration, of being both a stimulant and a depressant.

After inhalation, nicotine is rapidly absorbed and peak blood levels are obtained within minutes after smoking. The blood brain barrier is easily transversed by nicotine and peak levels in the central nervous system are rapidly obtained. Nicotine is rapidly metabolized in the liver. Its half-life is approximately 30 minutes. This probably is responsible for the recurring need to replenish the brain nicotine level approximately every 30 minutes during the waking hours for regular smokers.

Several perturbations have been carried out to firmly establish that nicotine is the substance responsible for the physical dependence in the regular tobacco user. Blinded intravenous administration of nicotine at various concentrations have the effect of reducing the desire to smoke.¹³ In a different type of experimental design, cigarettes of various nicotine concentrations were blindly given to subjects and they spontaneously adjusted their smoking habits to whatever was required to maintain their usual nicotine levels within a close range of the pre-study level.¹³ Realization of nicotine physical dependence and the unpleasant withdrawal effects of discontinuation makes it easy to understand the maintenance of smoking dependence.

Smoking dependence can be divided into three separate phases, that of 1) acquisition, 2) maintenance and 3) cessation. As mentioned earlier, maintenance of smoking dependence is the easiest of all three phases to understand. Acquisition has been a subject of intense study primarily by individuals interested in dependent disorders. There are a multitude of determining factors responsible for the acquisition of smoking dependence and these have previously been dealt with under the headings of: genetic, personality, social, sensorimotor and pharmacological factors. Genetic factors in some studies have shown to be of some importance, but the overall influence seems to be negligible. The so-called smoking personality has received much press and indeed if one ranks smokers and non-smokers in a personality inventory, the smokers do tend to have a higher score in the area of extroversion. Although this difference is statistically significant on the overall Eysenck inventory with extroversion scale ranging

from 0-24, there is only a 1 point difference between smokers and non-smokers.¹⁴

A small percentage of smokers smoke because of sensorimotor factors. This group contains a larger number of non-inhalers. These individuals get a positive reward from the performance of the smoking act itself and this seems to be the basis for their habit. The repetitious act of opening the packet, the feel of the cigarette, the process of lighting, drawing in, puffing out and watching the smoke, the smell and taste and the sound all seem to be gratifying. The pharmacological factors of course are extremely important and if it were not for nicotine being present in cigarette smoke, the only regular smokers would be those who received gratification from the sensorimotor factors.

Far and away, the dominating influence on the acquisition of smoking behavior is that of social factors. These social factors seem to have their major impact prior to age 20. For all practical purposes, the determinants of whether one is a regular smoker or not seems to have had their effects prior to this age. If one is a non-smoker at age 20, it is quite unlikely that one will become a regular smoker past this age. The social factors which influence an individual to continue their initial experience with tobacco smoke to the point at which they can successfully handle the initial toxic side effects of the burning tobacco leaf are of considerable interest. This is particularly important when one realizes that successfully smoking as few as 5 cigarettes daily prior to the age of 18 provides an 85 percent chance of becoming a regular smoker. Successfully smoking cigarettes is defined as being able to inhale the cigarette smoke without the unwanted side effects. The first few cigarettes are almost invariably unpleasant, but tolerance soon develops to the unpleasant side effects and skill is quickly acquired to limit the intake of smoke to a comfortable level thus lowering the threshold for further attempts. Therein lies a possible cause of the virtual inevitability of escalation after only a few cigarettes.

With curiosity satisfied by the first cigarette, the act is likely to be repeated only if the physical discomfort is outweighed by the psychological or social rewards. If these motives are sufficient to cause smoking to be repeated in the face of unpleasant side effects, there is little chance smoking

will not continue as the side effects rapidly disappear. Therefore the nature of these psychological and social pressures to smoke become extremely important.

It is beyond the scope of this report to go into all of the known social influences important in the acquisition of nicotine dependence. However, much insight into these factors has been given by Bynners survey of some nearly 6,000 school boy adolescents in England and Wales.¹⁵ Computerized discriminant function analysis revealed that recruitment to smoking depended largely on four main influences: 1) "number of friends who smoke"; 2) "anticipation of adulthood"; 3) parents permissiveness toward smoking" and 4) "not scared by the danger of lung cancer". The discriminant power of these influences was so great that in circumstances where all four were positive in favor of smoking, 70 percent of the boys were in fact smokers. In contrast, there were no smokers at all among those in whom all four influences were negative. Peer influences appear to be the most important single factor. The more friends one has who smoke during adolescent years, the more likely that individual is to become a regular smoker themselves.

As mentioned earlier, the second phase of smoking is easy to understand when one understands the dependence that regular smokers have upon the pharmacological effects of nicotine and the unpleasant side effects associated with withdrawal. In spite of this, approximately three-fourths of regular smokers have tried at one time or another in an attempt to discontinue their smoking dependence. Only a small minority, less than 20 percent, have been able to successfully discontinue cigarettes completely. Therefore, the third phase of smoking dependence (cessation) is seldom reached and maintained for the majority of regular smokers.

In any discussion of this third phase, (cessation of smoking dependence) several features should be pointed out. Paramount among these is that there is a small percentage of regular smokers who have a natural discontinuation of their smoking dependence. This follows a pattern similar to most other dependent disorders in that this natural discontinuation usually manifests itself in the fifth and sixth decades of life. Also there is a decrease in the average daily consumption of cigarettes which tends to occur in the fifth and sixth

decades of life. There is a particularly sharp decline in the average daily consumptions of cigarettes after the age of 60. An appreciation of this natural discontinuation of approximately 15 percent of regular smokers is important when one tries to evaluate the success of the anti-smoking campaigns and attempts of organizations and clinics to stimulate discontinuation of smoking. When this is taken into account, it is easy to appreciate that the efforts of such groups have been largely unsuccessful since only approximately 20 percent of regular smokers are able to discontinue cigarettes and maintain this discontinuation permanently. A better understanding of the reasons for discontinuation among individuals who have been successful is possibly important for use in stimulating and counseling individuals who have a desire to attempt discontinuation.

If one polls individuals who have successfully become ex-smokers, one finds a variation of several themes.¹⁶ Six of these themes predominate the reasons given for discontinuation or wanting to discontinue the smoking dependence. These six include: 1) health; 2) expense; 3) social influences; 4) example; 5) mastery and 6) aesthetics. By far the most important among this group is health. Unfortunately, it is usually after an individual has already acquired a smoking related ailment that one is stimulated or able to discontinue cigarette smoking. Expense is a major factor in the ability of younger individuals to discontinue, but has little influence past this point. Social influences, that is peer pressure from the family unit, is an important factor and the undesirability of being a bad example for such occupational groups as physicians, school-teachers and others sometimes is an important stimulus. Mastery and aesthetics are important only to a minor degree.

Understanding the difficulty in discontinuation of the smoking dependence makes one realize that the success of educational programs among adolescents and preadolescents will largely determine our success in reducing the population of smokers in this country. It is important that the emphasis be given in the preadolescent and early adolescent period since it is during this period that the individuals seem most susceptible to the social forces which influence them to continue experimenting with cigarettes to the point where side effects are tolerated and nicotine dependence is acquired. It

must be emphasized to these individuals that not only are there health hazards to smoking, but that once this dependent disorder is acquired, it is almost impossible to overcome nicotine dependence and, therefore, curious experimentation with cigarette smoking should ideally not be undertaken. Emphasis on the dependence producing features of cigarette smoking has not been emphasized with the adolescents in the past and in fact the implications of the media campaign has been that with willpower, one can overcome their smoking habit. This has led to some negative thoughts among non-smokers toward smokers and also some negative thoughts among smokers concerning themselves and their inability to discontinue smoking.

Future Studies of Cigarette Smoke

There is a great deal of interest in the "tar" portion of the cigarette smoke. Cigarette smoke as an aerosol, is by definition a suspension of particles in a gaseous environment. The "tar" portion is carried in the particulate or solid portion of smoke. The particle or solid phase of smoke aerosol also contains nicotine, the chemical probably responsible for the dependence upon smoking. Therefore when one speaks of nicotine, one speaks of the particulate phase of cigarette smoke.

The pharmacokinetics of nicotine are not well understood. Blood levels have not been available in the United States. To further fully understand the pharmacokinetics of nicotine and the relationship of blood levels of nicotine to the magnitude and manner of smoking, special attention must be given to its medium; i.e., the particulate portion of the cigarette smoke aerosol.

Cigarette smoke particulate matter is difficult to study. It is highly concentrated, and the particles have a tendency to coalesce. Attempts to avoid this tendency with dilution will lead to evaporation of the more volatile components of the particle. It also tends to rapidly absorb water, leading to increase in measured particle size. These difficulties hampered previous investigations.¹⁷

However a new tool for studying unstable aerosols has been developed at the Arkansas Graduate Institute of Technology. This new instrument is the SPART (single particle aerodynamic relaxation time) analyzer. It circumvents many of the limitations previously mentioned, and

it has already been used by Dr. Charles Hiller and Dr. Malay Mazumder (from the Graduate Institute of Technology) to study therapeutic aerosols.¹⁹

Basically the SPART uses sound waves and laser beams to measure particle size instantly. With a complex computer analysis the lasers are able to detect any motion of the particles. The motion is directly related to aerodynamic size of the particle in question. This system is fast and accurate and is the ideal tool for the study for unstable aerosols such as cigarette smoke.

We will first arrive at the particle sizes and concentration of smoke produced by commonly used cigarettes in the United States today, and then compare the particle sizes of cigarette smoke with and without filters, to see what effect the filter has on particulate load to the respiratory tree.

We will also be able to calculate the percent deposition of smoke in the respiratory tree. Percent deposition is of particular interest for the carcinogens and nicotine are carried in the particulate phase in smoke. It will certainly be of benefit to see what maneuvers can lead to altered deposition in the human airway, and hopefully further elucidate the properties that lead to local deposition in certain portions of the lung.

The implications of this research are large. If our efforts can lead to a lesser deposition of particles, certainly the hazards of smoking can be altered and/or reduced.

Realizing that less than 20 percent of regular smokers will be able to discontinue their smoking dependence and that in the effort to maintain the desired central nervous system nicotine levels they are inhaling hundreds of additional other substances, it makes us realize that medical science should provide these individuals with a mechanism whereby they could obtain the desired nicotine levels without the other additional components of cigarette smoke. Nicotine chewing gum has proven to be unsatisfactory, since to obtain the desired blood levels unpalatable nicotine gum was required. Additionally, one does not get the rapid absorption (IV rush effect) utilizing this mechanism. Possibly the development of a metered dose nicotine aerosol might be a satisfactory mechanism to deliver nicotine in a very rapid fashion at regularly desired intervals.

Such a mechanism would depend on understanding of the aerodynamics of particles, nicotine absorption, pharmacokinetics of nicotine blood levels and a better grasp of nicotine pharmacology.

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ELECTROCARDIOGRAM

OF THE MONTH



The Department of Cardiology, University of Arkansas College of Medicine

(See Answer on Page 480)

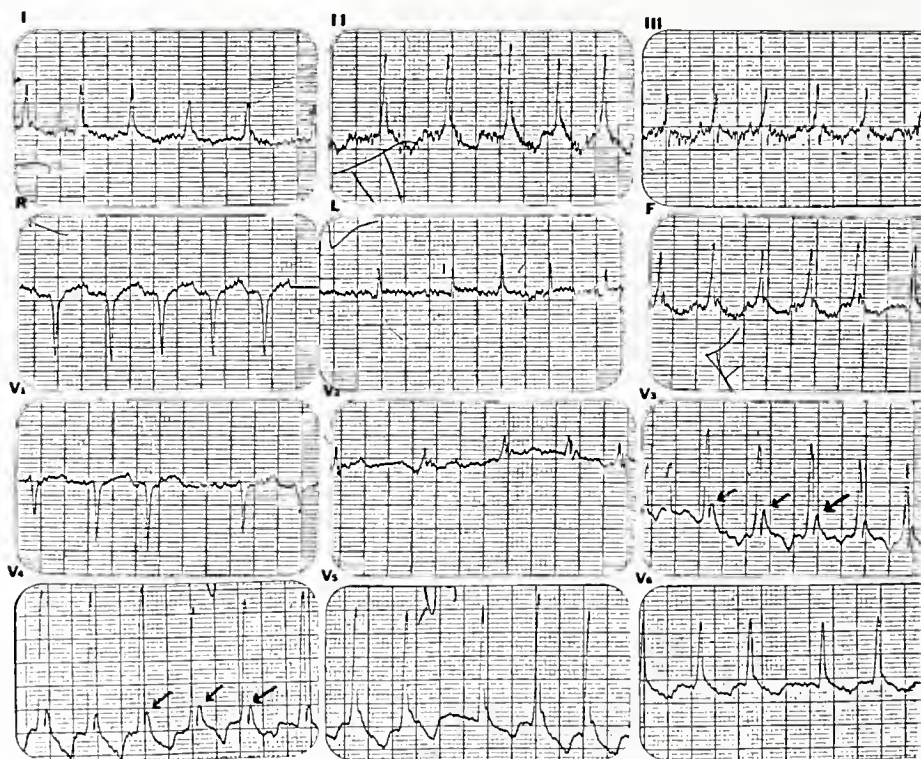
HISTORY: I. J. is a 47-year-old male who left his favorite tavern while intoxicated on a cold and snowy January evening. He stumbled into a snow bank, passed out, and was found commatose twelve hours later. Upon presentation to an emergency room, he was noted to be shivering, was hypotensive and had a rectal temperature of 81°F. His pulse was irregularly irregular and S₁ was variable in intensity.

His initial ECG with technical compromise secondary to shivering and leads V₄, V₅, and V₆ done post therapeutically are shown.

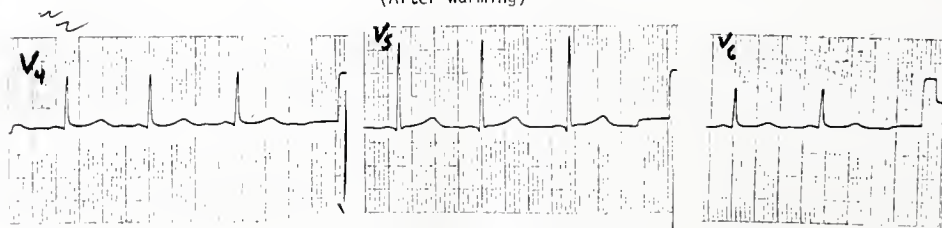
The "waves" indicated by the arrows in V₃ and V₄ most likely represent which one of the following:

- Delta waves
- Retrograde P-waves
- Osborn or J-waves

Lead 1 - V₆
(Pre-warming)



V₄ - V₆
(After warming)



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Office Orthopaedics

The Hand: Examination and Diagnosis

Kenneth G. Jones, M.D.*

With the observation: "The hand of the working man is his most valuable asset. Without it, life becomes a burden," Kanavel placed emphasis on the quality of our lives. The hand of man, singular and unique, in consort with the brain, integrates us with the World. The loss of a hand, or the function thereof, may literally destroy the quality of the life of the victim.

A study has been initiated by the American Society for Surgery of the Hand, in an effort to determine the magnitude of the deleterious economic and social sequela from injuries to the hand in the U.S.A. As life expectancies have lengthened, expectations from life have expanded. We need our hands for more, for longer.

The physician who first sees the patient with an injured hand is destined to play a significant role in the outcome of subsequent treatment. Decisions made in the Emergency Room will have lasting effects.

To assist physicians called upon to assess hand problems, the Instructional Aids Committee of the Continuing Education Committee, American Society for Surgery of the Hand, has published a small booklet entitled: *The Hand: Examination and Diagnosis*. Text is kept to a minimum while line drawings are used extensively. Part One deals with methods and specifics of examination. Part Two considers common problems.

Needless to say, a 108 page booklet is less than exhaustive of the subject, but house staff physicians and most general physicians should find it a worthwhile reference to own.

It is available for \$3.00 from:

The American Society for Surgery of the
Hand
Three Parker Place — Suite 132
2600 South Parker Road
Aurora, Colorado 80232

*Little Rock Orthopedic Clinic, P.A., 9500 Lile Drive, P. O. Box 5270, Little Rock, Arkansas 72205.





Fluoride Supplementation: A Physician's Responsibility?

Wharton A. Nichols, D.D.S.*

Why direct an article on fluoride supplementation in children to physicians? Too often physicians consider dental caries (decay) and its prevention to be the concern of dentists. Little consideration is given to the very young child from two weeks to three or four years of age. If that child is living in a region with unfluoridated drinking water, the physician can play an important role in preventive care.

By the time a child has reached three to four years of age a large amount of mineralization of the teeth has already occurred. Since dentists do not normally see children at this young age, the opportunity for the child to be provided fluoride for incorporation into the dental enamel of certain teeth has been lost. Physicians knowledgeable about the fluoride supplementation schedule for children can save them from unnecessary pain, suffering and changes in the dental arches which normally occur without the use of the fluoride ion.

All reputable authorities attest to the efficacy and the safety of fluoridation of public water supplies or the supplementation of fluoride to the diet. The use of the fluoride ion is recognized as the most effective preventive medical technique against dental caries.

The chemical concept is that the fluoride ion replaces some of the hydroxyl groups on the calcium hydroxyapatite crystal of the enamel during the mineralization of the teeth. This makes the partially fluoridated enamel more resistant to dental decay. There is a correlation with the present causal concept of dental decay in that oral bacteria act on food substrates producing

organic acids which hydrolyze the enamel crystalline structure.

Mineralization, especially calcification and development of the hydroxyapatite crystal, begins to occur prenatally in the primary or deciduous teeth with about 20% completed by birth. Total calcification of the primary teeth is completed by the first year, so the first year is most important. If the water supply is not fluoridated the primary teeth cannot be protected unless the child has been evaluated during the first year for fluoride supplementation. Contrary to what many people think, the primary teeth are essential to later development of the jaws, proper positioning of the secondary or permanent teeth, early speech and eating habits and general formation of the oral cavity. Unfortunately, early or premature loss of the primary teeth due to decay can create many easily preventable problems.

What about the secondary or permanent teeth? Calcification begins at birth in the first molar and is completed at the fourth year. The central and lateral incisors begin their calcification at 3 to 4 months postnatally and complete calcification by the fourth year. The cuspids and pre-molars begin calcification at 8 to 10 months and complete at six years with the second molars beginning at two years and completing at eight. These calcification times are important since the process has been initiated and in some teeth completed before the age of three to four when most children are first taken to the dentist. By then, the time is past for adequate protection to be afforded.

The easiest, most effective, safest and inexpensive means of reducing dental decay is by adjusting the community drinking water supply to an optimal fluoride level. In the absence of a

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fluoridated water supply, the alternative means of supplementation should be used. Fluoride in drops, tablets, lozenges, or in combination with vitamin preparations can serve as supplements, and have been shown to be effective.¹

Unquestionably, a formidable challenge is posed by any measure which requires patients to take a daily supplement over a period of years, i.e., from birth until all teeth are mineralized. Physicians are finding that compliance with the continual fluoride supplementation can be achieved. It is imperative that the physician and staff provide a well diagnosed and developed approach to the chronic supplementation. Professional enthusiasm increases measurably when mothers, involved in supplementation, report on its success and remark that they wish it had been available when they were infants. Feedback such as this provides the motivation necessary to sustain the interest of everyone concerned.

Two factors are important when supplementation of fluoride is to be prescribed. One is the concentration in the drinking water of any trace amount of fluoride less than the optimal amount of 1 part per million (1 gram of fluoride in 1,000,000 milliliters of water). The fact that fluoride administration is strictly supplemental should be emphasized. It is intended to increase fluoride intake to approximately the amount that would be obtained from water in an optimally fluoridated community. The physician can determine the amount of fluoride by use of a fluoride ion analyzer (many pediatricians possess an instrument in their offices) to test a sample of their patient's drinking water; otherwise, most clinical laboratories and state laboratories will perform the water analysis.

Age is the second factor which must be considered. It is well accepted that the breast-fed infant is not receiving any fluoride even though his mother may be drinking water from an optimally fluoridated water source. Fluoride does

not appear in either the milk of the nursing mother or in cow's milk. The issue is not of great importance if the infant breast-feeds for only the first two or three months; however, if more than six months of breast-feeding only is planned, early fluoride supplementation is advisable. The Committee on Nutrition, American Academy of Pediatrics, recommends fluoride supplementation to breast-fed infants of 0.25 mg per day within 2 to 3 weeks after birth. In formula-fed infants the Committee recommends supplementation within two weeks but only according to the fluoride content of the drinking water used in the formula.²

Many physicians feel that up to three years of age infants and children get little or no water. Commercial dairy milk (87% H₂O) is usually their only source of water. Unfortunately, milk does not contain fluoride. Even when a child lives in an area with fluoridated water, if his or her water intake is not sufficient, fluoride supplementation is needed.

Each case must be viewed on an individual basis. Formula-fed infants or infants on powdered milk totally reconstituted with optimally fluoridated or trace fluoridated drinking water would have different nutritional requirements than breast-fed infants. Dietary histories influence the dosages prescribed by the physician to provide satisfactory supplementation.

The recommended dosage schedule in Table I allows for differences in fluoride concentrations in community or private water supplies and for age. The dosages will accommodate the commercially available fluoride drops, tablets, and lozenges or the fluoride in combinations with vitamins. The small child unable to chew should be provided the fluoride solutions applied easily by dropper on the tongue. When the child is old enough to chew, a switch should be made to the chewable tablet or lozenge. The process of chewing and then "swishing" the disintegrated tablet in the saliva around the teeth aids in obtaining

TABLE I
SUPPLEMENTAL FLUORIDE
DAILY DOSAGE SCHEDULE

AGE	Concentration of Water Fluoride			
	0-0.3 ppm	0.3-0.7 ppm	0.7-0.9 ppm	1.0 + ppm
2 weeks-2 years	0.25 mg	0	0	0
2 years-3 years	0.50 mg	0.25 mg	0	0
3 years-16 years	1.00 mg	0.50 mg	0.25 mg	0
2.2 mg sodium fluoride equals 1.0 mg of daily fluoride				

maximum topical effects on the teeth as well as the systemic benefits.

Supplemental dietary fluorides should be prescribed until a child is 13 or 14 years of age, coinciding with the eruption of the second molars. At this time, the child should be evaluated for placement on a topical fluoride program.

As a precautionary measure, the American Dental Association and the Committee recommend that no more than 264 mg of sodium fluoride be dispensed and available to a child at one time.³

Physicians, dentists and others interested in further information on fluoride supplementation as well as other excellent articles concerning

related medical/dental care of children are referred to: "Pediatric Dental Care, An Update for the Dentist and for the Pediatrician", prepared by Medcom, Inc., 1633 Broadway, New York, New York 10019, published for the American Academy of Pedodontics.

REFERENCES

1. Forrester, D. J., and Schultz, E. M.: International Workshops on Fluorides and Dental Caries Reduction, Baltimore, University of Maryland Press, 1974, p. 25.
2. Committee on Nutrition: Fluoride Supplementation, Revised Dosage Schedule, in *Pediatrics*, Vol. 63, No. 1, January, 1979, p. 150.
3. Council on Dental Therapeutics: Prescribing Fluoride Supplements, in *Accepted Dental Remedies*, ed. American Dental Association, Chicago, 1977, p. 293.



EDITORIAL

Broder and Waldman on Suppressor Cells

Alfred Kahn, Jr., M.D.

Malignancy remains one of the greatest roadblocks to longevity—despite vast sums spent on research. Many facets of the problem have been illuminated by careful research, but the facets have not been put together into a meaningful whole.

In the December 7, 1968 and December 14, 1978 issues of *The New England Journal of Medicine*, Broder and Waldman have reported on "The Suppressor-Cell Network in Cancer"; this is another aspect of a many-sided problem. As they point out, victims of malignancy often have defective immune response—which may be a factor in the spread of malignancy in the individual; this defect may also play an important role in the planning of appropriate anti-cancer treatment.

Broder and Waldman review cellular regulation of immunity by text and by diagram—showing that there is a bone marrow stem cell

lymphocyte which can follow one of two pathways of development: The thymus or the bursa equivalent cells. These B cells are the forerunners of plasma cells, and are said to have surface immunoglobulins on the cell membrane similar to the substances later released by the plasma cell. T cells are responsible for the so-called cellular immunity. Broder et al state that T cells do not produce immune globulins, but act as helper cells to promote—or suppressor cells to inhibit the metamorphosis of B cells into plasma cells. Immune reactions may "overshoot" and suppressor cells tend to prevent this; the logical sequitur is that auto immune disease may be the result of faulty suppression of an immune response.

Broder and Waldman also reviewed the genetic regulation of immunity and suppressor cells. Immunoregulation in man is largely found on the sixth chromosome. These genes are said to codify

human leukocyte antigens known as HLA. It is rather amazing, but the area of the chromosome responsible for the encoding of lymphocytes can be broken down into subgroups; these subgroups are responsible for specific lymphocyte functions involving immunity.

Applying this more recent knowledge to the problem of cancer, Broder and Waldman state that the conception of tumor growing because of blood borne blocking factors may not be of vital importance and perhaps incorrect. Instead, Broder, et al, feel that the anti-tumor immune response of the host may be impaired by host suppressor cells. Animal models have shown suppressor cells present in various circumstances; anti-serum against T cells is said to stop the suppressor activity.

The authors state that T cells have a soluble factor that promotes tumor growth which apparently come from a specific chromosome region called I - J. Anti-serums against the I - J region have been produced and this as expected impairs suppressor cells and thus impairs tumor growth. They report further that T cells promote tumor growth in other ways, at times, for example, T cells from mice with lung cancer if injected into another mouse make it easier to initiate a cancer transplant. One interesting possibility Broder suggests, is that genetic susceptibility or resistance

to malignancy is a function of suppressor cell activation.

Suppressor cells are also said to arise when a physical carcinogen is present in amounts too small to actually initiate a carcinoma at that time; sunlight is such a case.

There are also suppressor cells which are non - T - cells Broder states. They have been found in humans.

Broder and Waldman have an interesting discussion on the role of suppressor cells in the immunodeficiency associated with neoplastic disease. For example, suppressor cells may cause the known loss of substance to disease seen in multiple myeloma and Hodgkins Disease. A fascinating aspect of this research is that there may be tumors derived from suppressor cells. Patients with these tumors would have a very bad prognosis.

Broder and Waldman feel that anti-tumor chemo-therapy may be beneficial because of its effect among other things on tumor cells. They say that x-ray can reduce suppressor cells which may be one reason for its effectiveness. The other side of the coin is that if helper cells can be stimulated while suppressor cells are depressed, the patient might be considerably benefitted; this is a largely unexplored field.

Broder and Waldman's article is must reading for physicians dealing with cancer.



MEDICINE IN THE



THE MONTH IN WASHINGTON

Few blame the Blizzard of "Seventy Nine" or the farmers' tractor parades at the height of Washington's rush-hour traffic for the abnormal delay in the organization of the 96th Congress. But it was late in the month before the new Congress was ready for business.

The leadership of the key House health subcommittees took a more liberal cast as Rep. Henry Waxman (D-Calif.) was elected to the chairmanship of the crucial House Commerce Health Subcommittee to fill the position long held by Rep.

Paul Rogers (D-Fla.) who retired last year.

Waxman edged out Rep. Richardson Preyer (D.-N. C.) by a 15 to 12 vote in an unusually tense fight that was generally pictured as a race between a moderate in the veteran Preyer and a liberal in Waxman. The latter told reporters after his victory that he would press for liberal legislation, but said he doubted a national health insurance measure would win Congressional enactment in this session. "And the Administration's Hospital Cost Containment proposal will have a very difficult time," he added.

In another important shift, Rep. Dan Rostenkowski (D-Ill.) gave up the chairmanship of the House Ways and Means Subcommittee on Health to assume the leadership of the expanded taxation panel. Rep. Charles Rangel (D-N. Y.) was elected chairman of the health unit. Rangel is considered a liberal, while Rostenkowski was a middle-of-the-roader on health legislation and the instigator of the Voluntary Effort (VE) to contain hospital expenditures.

The House Commerce Subcommittee on Oversight headed last year by Rep. John Moss (D-Calif.) will be chaired this year by Rep. Bob Eckhardt (D-Texas), a champion of consumer causes. Moss, who retired this year, was a bitter critic of the medical profession. He held controversial hearings on unnecessary surgery. Eckhardt, who defeated Rep. John Murphy (D-N. Y.) for the slot, said he plans to concentrate the Subcommittee's investigations on housing, energy and food.

* * * *

The Carter Administration's health budget encountered a cry of "niggardly" from health groups and Senators upset at economies.

Sen. Edward Kennedy (D-Mass.) opened his Senate Health Subcommittee to testimony from interested groups and to Health, Education and Welfare Secretary Joseph Califano as the lawmaker continued his hammering at the Administration's health policies. Kennedy asserted that Carter's budget would produce the "intolerable result" of undermining the health care system. He said it would "jeopardize" the quality of medical schools and "seriously damage" health research and other programs.

The Association of American Medical Colleges (AAMC), the coalition for health funding, and the American Nurses Association (ANA) argued against proposed cutbacks. The American Medical Association submitted a statement criticizing some of the reductions.

Defending the budget, Califano said some important programs will receive increases. The budget "must be seen from a national, not just a health perspective," he testified. "Both you and I can identify serious unmet health needs that require additional federal dollars, but we have had to make some difficult decisions."

John Cooper, M.D., President of the AAMC, said proposed cuts in capitation and student aid could force higher tuition and leave only the wealthy able to afford a medical education.

The AMA said that "within the restraints

suggested by President Carter, we do have reservations about certain of the shifts in funding allocations for some programs."

The recommended reduction of about \$5.5 million for the Maternal and Child Health Care program hits a key service program such as this one that has "been badly eroded by inflation . . . adequate funding must be maintained," the AMA said.

"We must also question the substantial reduction in funds for child immunization programs. This program has contributed substantially to improved health in this country and any reduction in effort must be carefully scrutinized.

There is no evidence that federal health research dollars have been redirected to basic biomedical research, as the AMA has argued so often in the past, the statement said.

"We are also concerned about the drastic and immediate cuts in support for health professions education. "Reducing federal support to health professions schools will put increased pressures on the finances of students and their families as tuitions can be expected to rise to compensate for the loss of funds."

The substantial increase for the community health centers program was questioned. "Were the efficacy of this program free of debate, we might not question the increase. However, the General Accounting Office has been critical of this activity recently. Until such time as these questions are resolved, increased funding should not be authorized."

The AMA said, "We do not wish to leave the impression that all the President's health funding choices are questionable. The AMA believes that increases suggested for several programs are commendable and necessary. For example, the expansion of the National Health Service Corps continues the fine efforts of that program to place needed health professionals in communities having shortages of medical personnel.

"We also applaud the proposed new funding for Mental Health Research. Much needs to be done in this area."

* * * *

Catastrophic national health insurance, once a dark horse in the NHI sweepstakes, but now one of the favorites, has been introduced in the new Congress by Chairman Russell Long (D-La.) of the Senate Finance Committee. Ten Senators were cosponsors.

The measure, identical to the one Long has

been pushing for the last six years, "is a common sense, bipartisan proposal" that represents "a major step toward the provision of adequate protection against the high costs of health care," Long told the Senate.

He said the bill "may be about as much as we can afford to enact in this Congress, perhaps as much as can be afforded for the next several years." The catastrophic benefit cost was estimated at \$5 to \$7 billion annually.

The other two thrusts of the bill are to federalize and expand Medicaid and standardize private health insurance plans. The Medicaid expansion to cover many not now eligible and to broaden benefits would cost some \$12 to \$14 billion yearly. Long arranged the introduction so that Senators favoring the catastrophic plan but hesitant about the Medicaid proposal could back the catastrophic as a separate measure.

"Time after time we hear of the ruinous costs of prolonged illness," Long told the Senate. "We believe that it is time to stop talking about these problems and start doing something about them." Neither the Administration, nor any outside group has developed such an approach, he declared—"It is a plan 'developed by Congress'".

Hearings will be held by the Finance Committee in late March. Cosponsors were Sens. Herman Talmadge (D-Ga.), Chairman of the Finance Subcommittee on Health; Milton Young (R-N. D.); John Melcher (D-Mont.); Howard Cannon (D-Nev.); Daniel Inouye (D-Hawaii); Robert Stafford (R-Vt.); Charles Percy (R-Ill.); Richard Stone (D-Fla.); Mark Hatfield (R-Ore.); and Charles Mathias (R-Md.).

* * * *

Medicare beneficiaries in areas of the country served by Professional Standard Review Organizations (PSRO's) are spending fewer days in the hospital than beneficiaries in areas without PSRO's.

An evaluation report prepared by HEW says the PSRO program, under attack a year ago by the Administration, has become "an effective partner . . . in the HEW campaign to reduce unnecessary costs while assuring high quality care," according to HEW Secretary Califano.

In the 93 areas served by PSRO's, Medicare beneficiaries used 1.5 percent fewer days of hospital care than they would have used without PSRO's, a savings of about 55 days of care per 1,000 beneficiaries, according to the report.

HEW estimated that PSRO's saved \$50 million

in 1977 by eliminating unnecessary days in the hospital. The 96 PSRO's spent \$45 million that year to review hospital care, producing a net savings of \$5 million.

* * * *

Rep. Tenneyson Guyer (R-Ohio) has introduced legislation to require economic impact analyses for all rules and regulations required to be published in the Federal Register.

The bill is identical in effect to an AMA proposal which received wide Congressional support in the last Congress. The economic analyses required by the new bill (H.R. 383) would include a detailed analysis and discussion of the impact the regulation would have on the economy and include such factors as:

- the cost of the rule on consumers, business markets and federal, state and local governments;
- the effect on employment, productivity, competition, and on supplies of important products and services;
- the unavoidable adverse impacts of the rule, and alternatives to the rule that were considered;
- the estimated cost of direct compliance with the rule by those required to comply with the rule;
- the estimated cost of implementing, monitoring and enforcing the rule.

The House Judiciary Committee handles the legislation.

* * * *

Wage and Price Stability Council Director Barry Bosworth, who has been sympathetic to the Voluntary Effort in contrast to the hostility of HEW Secretary Joseph Califano, told the annual meeting of the American Hospital Association in Washington that the Administration's "trigger" program would not be inconsistent with the voluntary approach "which would be preferable."

"I personally believe it can be done voluntarily," Bosworth said. But "we cannot continue, decade after decade, to have an increasing proportion of the nation's Gross National Product going for hospital care."

Last year, Bosworth generally steered clear of the fight over controls. He often praised the voluntary, cooperative program launched by the AHA, the AMA, and the Federation of American Hospitals (FAH).

The Administration has abandoned its mandatory federal control plan of last year, which

collapsed in the past Congress, in favor of standby federal controls if hospitals fail to achieve a reduction in the rate of expenditures increase to 9.7 percent, a level termed impossible to meet by AHA President J. Alexander McMahon. McMahon said he cannot understand how the Administration can take the position that standby controls for the economy as a whole are unnecessary and unworkable, but insist they be imposed on hospitals alone.

Declaring that hospitals and physicians have become "one large profession now" under the threat of controls, AMA executive vice president James Sammons, M.D., pointed out to the assembled AHA delegates that none of the government speakers has "said a word about quality."

"Quality comes first," Dr. Sammons said, "and needs to be protected and preserved against the political whims of the moment."

Health is now the second or third largest segment of the economy, employing millions of people, "and you can't play political games with it unless you are prepared to suffer the consequences" to the economy if the course is wrong, he warned.

"The threat of imposing standby controls runs the risk of escalating expenditures by hospitals in anticipation of the threat coming true," Dr. Sammons said. Furthermore, a standby program could damage voluntary efforts by making controls appear inevitable.

The AMA official noted that the Voluntary Effort was hailed by Bosworth last year as the only major successful restraint program by any part of the economy. But now the Administration seeks controls on grounds the program hasn't been working well.

Dr. Sammons said that the control issue has drawn hospitals and physicians close together in a "totally cooperative" effort. "We have come a long way in doing what we should have done at the very beginning," he said. "We are one large profession."

* * * *

The Military Surgeons General told Congress the Armed Forces suffer a physician shortage.

Air Force Lt. Gen. Paul Myers, M.D., said a shortage of specialists is the major concern. The overall shortage of physicians in the Air Force is running about 10 percent, Dr. Myers said.

The military cannot compete for physicians in the civilian health care market, largely because

military pay is well below what civilian doctors receive, according to the physician.

"In spite of extensive recruiting, we have never met our required goal in any fiscal year," Dr. Myers said. "Recruiting in some specialties has been almost nil."

Almost 16 percent of the Air Force's physicians are foreign medical graduates.

Navy Vice Admiral Willard Arentzen, M.D., said a recent Navy exercise "demonstrated that not only are the numbers of medical reserves insufficient to meet contingency requirements, but that reserve personnel will not be available soon enough to be used in fulfilling overseas deployment commitments."

Army Lt. Gen. Charles Pixley, M.D., said that since the end of the draft the number of physicians willing to join the Army has steadily dwindled. He urged Congress to provide an improved scholarship program and pay that is competitive with civilian medical practice, plus "facilities and equipment" comparable to what civilian physicians have.

* * * *

The American Chiropractic Association said the Administration's opposition to chiropractic benefits would be counterproductive to the health of the aged and aggravate the problem of inflation in health care costs.

In a full page "open letter to the President" advertisement in the *Washington Post*, the Association said the President acted on "poor advice" in asking "that a vital service be eliminated."

The Administration in its budget request to Congress recommended that chiropractic benefits in Medicare and Medicaid be eliminated. "In the absence of scientific evidence that chiropractic services either improve or maintain health status, HEW believes that chiropractors should be removed from the list of eligible providers," the Administration said, claiming this would save the government programs \$35 million next fiscal year.

The Chiropractic Association said 226 Senators and Representatives in the last Congress supported legislation seeking an expansion of chiropractic benefits.

The Administration's stand "would unfairly discriminate against millions of Americans who depend on doctors of chiropractic as their primary health care providers," said the Association. Noting that chiropractic is licensed in all 50 states, the ad said that as an out-patient method of treatment it "saves the cost of hospitalization."

keeping up

Category 1 Continuing Medical Education Programs Available in Arkansas

DETECTION OF HUMAN TRANSITIONAL CELL CARCINOMA BY SCANNING ELECTRON MICROSCOPY OF EXFOLIATED CELLS IN THE URINE

Presented by Dr. William A. Croft, Associate Scientist, Department of Human Oncology, Clinical Science Center, University of Wisconsin Medical School, Madison. 5:30 p.m., May 1, 1979, at Room E159, Education Wing, St. Vincent Infirmary, Little Rock. One hour Category I credit. No fee.

RUN FOR YOURSELF

Presented by Dr. Bruce Schratz, 6:00 p.m., May 21, 1979. Memorial Hospital, North Little Rock. One hour Category I credit. No fee.

EVALUATION OF NECK MASS

Presented by Dr. James Y. Suen, 6:00 p.m., June 18, 1979. Memorial Hospital, North Little Rock. One hour Category I credit. No fee.

FAMILY PRACTICE INTENSIVE REVIEW

Presented by Dr. Ben N. Saltzman. Registration 7:30 a.m. to 8:30 a.m., June 27, 1979. First lecture June 27, 8:30 a.m.; June 28th, 8:00 a.m. - 4:45 p.m.; June 29th, 8:00 a.m. - 4:45 p.m., Education II Amphitheater, University of Arkansas for Medical Sciences, Little Rock. Twenty-two hours Category I credit and twenty-two hours Prescribed credit American Academy of Family Physicians.

RECURRING EDUCATION PROGRAMS

Unless otherwise indicated, programs are for one to one and one-half hours Category I credit.

INTERHOSPITAL GI PROBLEMS CONFERENCE, First Monday of each month, 6:00 p.m., St. Vincent Infirmary, Little Rock.

PULMONARY CARE CONFERENCE, Tuesday of each week, Noon until 1:00 p.m., Dining Room #4, Baptist Medical Center, Little Rock.

INTER-HOSPITAL UROLOGY GRAND ROUNDS, First Tuesday of each month, 5:30 p.m., St. Vincent Infirmary, Little Rock.

CENTRAL ARKANSAS PRIMARY CARE CONFERENCE, Second Tuesday of each month, 7:00 p.m. to 9:00 p.m., Baptist Medical Center Auditorium, Little Rock. Two hours Category I credit or two hours AAFP prescribed credit.

NEUROPATHOLOGY CONFERENCE, Third Tuesday of each month, 5:00 p.m., St. Vincent Infirmary, Little Rock.

CARDIOPULMONARY RESUSCITATION COURSE, Second Wednesday of each month, 6:30 p.m. to 10:30 p.m., Human Resource Development Area, Baptist Medical Center, Little Rock. Four hours Category I credit or four hours AAFP prescribed credit.

MORBIDITY AND MORTALITY CONFERENCE, First Thursday of each month, 8:00 a.m. to 9:00 a.m., Conference Room #1, Baptist Medical Center, Little Rock.

SURGERY CONFERENCE, Second, Third, and Fourth Thursday of each month, 8:00 a.m. to 9:00 a.m., Conference Room #1, Baptist Medical Center, Little Rock.

PULMONARY CONFERENCE, First and Third Thursday of each month, 12:00 Noon, St. Vincent Infirmary, Little Rock.

MEDICINE CONFERENCE, First and Third Friday of each month, 7:45 a.m. to 8:45 a.m., Conference Room #1, Baptist Medical Center, Little Rock.

As organizations accredited for continuing medical education by the Liaison Committee on Continuing Medical Education, the organizations named certify that these continuing medical education activities meet the criteria for the credit hours specified in Category I of the Physician's Recognition Award of the American Medical Association.



PERSONAL AND NEWS ITEMS

Dr. Paul Wills of the Western Arkansas Ear, Nose and Throat Clinic and Dr. Rex Russell of the Holt Krock Clinic, Fort Smith, Arkansas, presented a paper at the Southern Section of the American Laryngological Rhinological and Otological Societies at Boca Raton Hotel and Club, Boca Raton, Florida, January 11-13, 1979. The title of the paper was "Percutaneous Embolization for Control of Intractable Epistaxis." The paper has been accepted for publication in the Laryngoscope. The presentation was also recorded by Audio Digest Otolaryngology and will be presented on one of its forthcoming Continuing Education tapes.

PHYSICIANS CERTIFIED

A number of Arkansas physicians have recently been named Diplomates of the American Board of Family Practice. They are: Dr. Samuel W. Peebles of Nashville, Dr. Phillip White of Murfreesboro, Dr. Michael Young of Prescott, Dr. Melvin Belknap of North Little Rock, Dr. L. Randle Coker of Star City, Dr. C. R. Cole of Blytheville, Dr. Richard Ridlon of DeQueen, Dr. Jerome Luker of Dardanelle, Dr. Eugene Shaneyfelt of Manila, Dr. Ronald Reese of Harrison, Dr. Thomas Hollis of Hot Springs, from Jacksonville Dr. Leslie Anderson, Dr. J. D. Calhoun, Dr. Joe Daugherty, Dr. Ronald Fewell, Dr. G. A. McCrary, Dr. Phillip Tracy, and from Camden Dr. Judson Hout, Dr. Jerry Kendall, Dr. Cal Sanders, Dr. Billy Livingston.

DOCTORS NAMED ADVISORS

Drs. William R. Scurlock and Robert L. Parkman, Jr., both of El Dorado, were recently named physician advisors to the Union County Medical Assistants Society.

PHYSICIAN RETIRES

Dr. Ulys Jackson of Harrison announced his retirement from the practice of medicine when his office building was demolished in the explosion in that city. Dr. Jackson has compiled an autobiography.

DOCTOR CONDUCTS MEETING

Dr. Robert Janes of Fort Smith, president of the Arkansas Division of the American Cancer Society, presided at the recent state meeting initiating the State Cancer Crusade.

PHYSICIAN SPEAKS

Dr. Eldon Fairley of Osceola recently addressed the Osceola Rotary Club, speaking of his experiences as a South Mississippi County physician.

DOCTOR ATTENDS SEMINAR

Dr. Carl Chambers, an otolaryngologist from Harrison, recently attended an international symposium on otology in Tampa, Florida.

DR. BECKMAN PRESENTS PROGRAM

Dr. James Beckman of Mountain Home recently presented a program on Reconstruction and Cosmetic Plastic Surgery to the Bull Shoals Community Hospital Auxiliary.

PHYSICIAN NAMED FELLOW

Dr. Ralph D. Cash of Benton has been named a Fellow of the American Academy of Orthopedic Surgeons.

DOCTOR ELECTED

Dr. Joseph D. Calhoun of Little Rock has been named president-elect of the American Roentgen Ray Society. He is a Fellow of the American College of Radiology and a past president and former chairman of the Board of Chancellors of that group.

ROTARY CLUB SPEAKER

Dr. Ben Saltzman recently addressed the Pochontas Rotary Club, speaking on the history of the University of Arkansas Medical School.

DOCTOR RETIRES FROM BOARD

Dr. Swan B. Moss is retiring from the board of the McGehee school district after more than fifteen years of service. Dr. Moss is a general practitioner in McGehee.

PRESIDENT INSTALLED

Dr. Paul J. Cornell of Little Rock was recently installed as president of the Pulaski County Medical Society. Dr. Cornell is an obstetrician-gynecologist.

DR. LOWE ON PANEL

Dr. Betty Lowe, a rheumatologist from the Arkansas Children's Hospital in Little Rock, participated in the program at the annual meeting of the Arkansas Chapter of the Arthritis Foundation.

PHYSICIAN JOINS STAFF

Dr. Sam A. McGuire, III, is joining Drs. Milton

Lubin and Floyd Shrader of West Memphis in family practice. Dr. McGuire was previously in private practice in Parkin. He has been named chief of family practice at Crittenden Memorial Hospital.

DOCTOR HAS EXHIBIT

Dr. Howard Stern of Pine Bluff had a showing of watercolors in the Art Museum at the University of Arkansas at Pine Bluff. Dr. Stern is a general surgeon.



NEW MEMBERS

The Pulaski County Medical Society has added six new members to its roll:

DR. HAROLD BETTON

Dr. Harold B. Betton is a native of Little Rock. He attended the University of Arkansas, receiving a BSA degree in 1969. He received his M.D. degree in 1975 from the University of Washington School of Medicine, Seattle. He served his internship and a family practice residency at the University of Washington Hospital.

Dr. Betton is in general practice at 1221 Bishop, Little Rock.

DR. JOHN W. BOWERS

Dr. John W. Bowers was born in Jonesboro. He attended the University of Iowa, Iowa City, for his pre-medical education. Dr. Bowers received his M.D. degree from the University of Arkansas School of Medicine in 1973. He interned at St. John's Hospital, Tulsa, Oklahoma. Dr. Bowers completed an ophthalmology residency in 1977 at the Eye Foundation Hospital, Birmingham, Alabama. Before coming to Arkansas, Dr. Bowers was in practice in Springfield, Missouri.

Dr. Bowers is a board certified ophthalmologist practicing at 6600 Baseline Road, Little Rock.

DR. MAXWELL R. BALDWIN

Dr. Maxwell R. Baldwin is a native of Kent, England, and attended the University of London

Faculty of Medicine, receiving his M.D. degree in 1961. He served an internship in the United Kingdom and at the University Hospital in Little Rock. Dr. Baldwin completed a residency in obstetrics and gynecology at the University of Arkansas Medical Center in 1968.

Dr. Baldwin is an obstetrician-gynecologist at 880 Medical Towers Building in Little Rock.

DR. MARSHA T. HOWELL

Dr. Marsha T. Howell is a native of Pine Bluff. She attended Arkansas State University at Jonesboro and the University of Arkansas at Little Rock, before receiving her medical degree in 1974 from the University of Arkansas School of Medicine. She also interned and completed a four year obstetrics and gynecology residency at the University of Arkansas Medical School.

Dr. Howell is an obstetrician-gynecologist at 120 Doctor's Park Building, Little Rock.

DR. TIMOTHY T. MILLER

Dr. Timothy T. Miller is from Bloomington, Illinois. He was graduated in 1967 with a BA degree from Illinois Wesleyan University, Bloomington. He received his M.D. degree in 1972 from the University of Illinois College of Medicine, Chicago. Dr. Miller received his internship training from Santa Clara Valley Medical Center, San Jose, California. He completed an obstetrics-gynecology residency in 1976 at the University of Illinois Hospital, Chicago.

Dr. Miller held a teaching position at the University of Illinois College of Medicine from 1973 until 1978. He is presently on the faculty of the Obstetrics-Gynecology Department at the University of Arkansas College of Medicine.

DR. CHRISTOS C. PAPAIOANNOU

Dr. Christos C. Papaioannou was born in Pyruos, Greece. He attended the University of Athens Medical School, receiving his medical degree in 1967. Dr. Papaioannou interned at Henry Ford Hospital, Detroit, where he also

completed an Internal Medicine residency in 1976. He completed a rheumatology residency in 1978 at the Mayo Clinic.

Dr. Papaioannou is board certified in Internal Medicine. He is in the practice of Rheumatology and Internal Medicine at #1 St. Vincent Circle, Little Rock.

DR. MYRA MERCHANT GILLEAN

The Little River County Medical Society has added Dr. Myra M. Gillean to its membership roll. Dr. Gillean is a native of Texarkana. She attended the University of Arkansas for her pre-medical education. Dr. Gillean received her M.D. degree in 1977 from the University of Arkansas College of Medicine. She interned at Tulane Division, Charity Hospital of New Orleans.

Dr. Gillean is a general practitioner at the Ashdown Clinic, Second and Main Streets, Ashdown.

DR. DONALD C. RILEY

Dr. Donald Riley is a new member of the Pope County Medical Society. He is a native of Tupelo, Mississippi. Dr. Riley attended the University of Alabama and Memphis State University before entering the University of Tennessee College of Medicine in Memphis, from which he received his M.D. degree in 1973. Following his internship and residency at Baptist Hospital in Memphis, he practiced in St. Joseph East, Memphis.

Dr. Riley is a board certified radiologist practicing at 2504 West Main, Russellville.

DR. RICHARD O. HENDRICKSON, JR.

Dr. Richard Hendrickson is a new member of the Faulkner County Medical Society. A native of Conway, Dr. Hendrickson attended the University of Central Arkansas, receiving a BS degree. He then received his M.D. degree in 1971 from the University of Arkansas School of Medicine. He interned at St. John's Hospital in Tulsa, Oklahoma. Dr. Hendrickson served from 1972 to 1974 in the United States Army as General Medical Officer. In November 1978, he completed a residency in ophthalmology.

Dr. Hendrickson is a board certified ophthalmologist practicing at the Conway Ophthalmology Clinic, 1504 Caldwell Street.

DR. W. H. CHAMBERS

The Howard-Pike County Medical Society has added Dr. W. H. Chambers to its membership.

Dr. Chambers, a native of Umpire, Arkansas, served in the United States Air Force from 1941 thru 1945. He attended the University of Arkansas and was graduated in 1950 with a BS degree. He then received his medical degree in 1954 from the University of Arkansas School of Medicine. Dr. Chambers interned at Crawford Long Memorial Hospital of Emory University, Atlanta, Georgia. In 1956, he completed his residency at Lallie Kemp Charity Hospital, Independence, Louisiana.

Before coming to Arkansas, Dr. Chambers practiced eleven years in Vacherie, Louisiana, and eleven years at Lamar, Colorado.

Dr. Chambers is in General Practice at Eighth and Leslie, Nashville.

* * * *

The Ashley County Medical Society has added two physicians to its membership roll:

DR. BARRY V. THOMPSON

Dr. Barry V. Thompson was born in Saskatoon, Saskatchewan, Canada. He received his pre-medical education at the University of Saskatchewan, Saskatoon. Dr. Thompson was a member of the Canadian Air Force from 1963 to 1970. He was graduated from the University of Saskatchewan College of Medicine in 1966. He interned at St. Paul's Hospital, Saskatoon, and completed a residency in surgery in 1969 at the National Defence Medical Center, Ottawa, Ontario.

Prior to his coming to Arkansas, Dr. Thompson practiced eight years in Ottawa. He held positions as Clinical Instructor at the University of Ottawa and Algonquin College and Chief of the Medical Staff at Queensway Carleton Hospital, Ottawa.

Dr. Thompson is in general practice at 310 North Alabama, Crossett.

DR. LUIS F. GARCIA

Dr. Luis F. Garcia is a native of Cuba. He received his pre-medical education from the University of Havana. Dr. Garcia attended the University of Madrid School of Medicine in Madrid, Spain, receiving his M.D. degree in 1976. He received his internship at the University of Arkansas Medical Center and the Baptist Medical Center.

Dr. Garcia is a general practitioner at 310 North Alabama, Crossett.

* * * *

DR. FRANKLIN D. ROBERTS

Dr. Franklin D. Roberts is a new member of the Columbia County Medical Society. He received a Bachelor of Science degree in Chemistry from the University of Arkansas and a Masters in Chemistry from the University of Oklahoma. Dr. Roberts attended the University of Arkansas College of Medicine, receiving his medical degree in 1976. He completed a two-year family practice residency at the Fort Smith Area Health Education Center.

Dr. Roberts is in family practice at the Magnolia Clinic, 123 North Jackson.

DR. JOHN P. PARK

The Washington County Medical Society has added Dr. John P. Park to its membership roll. Dr. Park is a native of New York. He was graduated in 1968 from the University of Washington with a BS degree in Zoology. He received his M.D. degree in 1972 from the University of Washington School of Medicine, Seattle. Dr. Park was an intern and resident at Strong Memorial Hospital in Rochester, New York. He then completed an orthopaedic surgery residency in 1978 at the University of Arkansas College of Medicine.

Dr. Park's teaching appointments include Assistant Professor at the University of Arkansas for Medical Sciences.

Dr. Park is with the Orthopaedic Neurological Clinic, 2907 East Joyce, Fayetteville.

* * * *

Two new members have joined the Sebastian County Medical Society:

DR. D. BRUCE GLOVER

St. Louis, Missouri, is the birthplace of Dr. D. Bruce Glover. He was graduated in 1971 from Washington University, St. Louis. He attended Vanderbilt University School of Medicine, Nashville, receiving his medical degree in 1975. Dr. Glover was in residency at the Kansas University Medical Center, Kansas City.

Dr. Glover is an obstetrician-gynecologist at 408 South 16th Street, Fort Smith.

DR. ROBERT T. MCKINNEY

Dr. Robert McKinney is a native of Mulberry. He attended the University of Arkansas and the University of Arkansas College of Medicine, receiving his medical degree in 1975. He completed an internship and a family practice residency at

John Peter Smith Hospital in Fort Worth, Texas.

Dr. McKinney is in Family Practice at the Bailey Clinic, Greenwood, in association with Drs. Charles Bailey and Rick Martin.

* * * *

DR. WILLIAM A. DANIEL

Dr. William A. Daniel is a new member of the Ouachita County Medical Society. He was born in Camden. Dr. Daniel attended Rice University, receiving a BA in Biology. He received his medical degree in 1975 from Tulane University School of Medicine, New Orleans. Dr. Daniel interned and had residency training in Internal Medicine at Charity Hospital, New Orleans, Tulane Division.

Dr. Daniel is board certified in Internal Medicine and practices at 353 Cash Road, Camden.

DR. ROBERT W. DONNELL

Dr. Robert W. Donnell has been added to the membership roll of the Benton County Medical Society. He is a native of Abilene, Texas. Dr. Donnell attended Westminster University in Fulton, Missouri, before receiving his M.D. degree from Vanderbilt University School of Medicine, Nashville. He completed a residency in Internal Medicine at St. Louis University School of Medicine.

Dr. Donnell is an Internist in practice at 1040 West Walnut, Rogers.

* * * *

The Baxter County Medical Society has three new members:

DR. THOMAS L. EANS

Dr. Thomas L. Eans was born in Stuttgart. He attended the University of Arkansas and the University of Arkansas College of Medicine, receiving a M.D. degree in 1976. He completed a family practice residency at the Fort Smith Area Health Education Center.

Dr. Eans is a general practitioner with the Saltzman-Guenther Clinic at 126 West Sixth, Mountain Home.

DR. THOMAS H. BENTON

Dr. Thomas H. Benton's hometown is Detroit, Michigan. He attended the University of Arkansas in Fayetteville and the University of Arkansas College of Medicine, receiving his medical degree in 1976. He completed a residency in family practice at the Area Health Education Center in Fort Smith.

Dr. Benton is a general practitioner at the Skyvue Medical Clinic, Salem.

DR. JAMES S. CLARKE

Dr. James S. Clarke is a native of Wegner, South Dakota. He was graduated in 1971 from Arkansas Polytechnic College in Russellville. Dr. Clarke attended the University of Arkansas College of Medicine, receiving his medical degree in 1975. He was also an intern and resident at the University of Arkansas College of Medicine.

Dr. Clarke is in the practice of Anesthesiology in the Mountain Home Professional Building, Seventh and Shiras.

* * * *

DR. RON A. KALER

The Garland County Medical Society has added Dr. Ron A. Kaler to its membership roll. His hometown is Paducah, Kentucky. Dr. Kaler attended Murray State University in Murray, Kentucky. He received his medical education from Vanderbilt University School of Medicine in Nashville, graduating in 1972. Dr. Kaler's internship training was at the University of Kansas Medical Center. He served in the United States Navy from 1974 to 1976. He then completed his residency training in 1978 at the University of Kansas Medical Center, where he was chief surgery resident.

Dr. Kaler is a general surgeon practicing at 905 West Grand, Hot Springs.

DR. V. GLENN SEARS

Dr. V. Glenn Sears, a native of Amarillo, Texas, is a new member of the Craighead-Poinsett County Medical Society. He attended McMurry College in Abilene and the University of Texas Southwestern Medical School, Dallas, receiving his medical degree in 1975. Dr. Sears interned at the University of Arkansas Medical Center and completed a family practice residency there.

Dr. Sears is a board certified family practitioner in the Medical Plaza, 3100 Apache Drive, Jonesboro.

DR. STANLEY PHILLIPS

A new member of the Crittenden County Medical Society, Dr. Stanley Phillips was born in Brooklyn, New York. He attended Brooklyn College and New York University, New York City, completing his pre-medical education in 1943. He served in the United States Army from 1943 to 1945. After the war, he entered Chicago Med-

ical School and received his M.D. degree in 1951. Dr. Phillips interned at Queens General Hospital, Jamaica, New York.

Dr. Phillips practiced 26 years in Bethpage, New York. Dr. Phillips is in general practice at 102 West Broad, Lepanto.

DR. LOUIS GORDON SASSER, III

The Crawford County Medical Society has added Dr. Louis Gordon Sasser, III, to its membership roll. He was born in Wilmington, North Carolina. He attended Wake Forest University in Winston-Salem, North Carolina, for his pre-medical education. In 1977, Dr. Sasser received his M.D. degree from Eastern Virginia Medical School, Norfolk. He interned at the United States Public Health Service Hospital, Baltimore, Maryland.

Dr. Sasser is a general practitioner at the Alma Clinic.

DR. KEITH M. LIPSMEYER

The Conway County Medical Society has added Dr. Keith Lipsmeyer to its membership. His hometown is Morrilton. Dr. Lipsmeyer attended the University of Central Arkansas for his pre-medical education. He received his medical degree in 1977 from the University of Arkansas College of Medicine. Dr. Lipsmeyer interned at St. Vincent Infirmary.

Dr. Lipsmeyer is in the practice of general medicine at #2 Hospital Drive, Morrilton.

DR. NORTON R. RITTER

A new member of the Clark County Medical Society, Dr. Norton R. Ritter, was born in Picher, Oklahoma. He attended Kansas State Teachers College, Pittsburg, for his pre-medical education. Dr. Ritter received his M.D. degree in 1942 from the University of Kansas School of Medicine. His internship was from Missouri Baptist Hospital, St. Louis. Dr. Ritter served in the United States Army Medical Corps from 1943 thru 1945. Dr. Ritter had practiced in Oklahoma and New Mexico prior to coming to Arkansas.

Dr. Ritter is a general practitioner at Arkadelphia Medical Clinic.

PULASKI COUNTY

New courtesy members of the Pulaski County Medical Society are Mr. Harrell Odom, II, Freshman Medical Student; Dr. Anthony Harden, Pathology resident; and Dr. Luis F. Ardon, Internal Medicine resident.



OBITUARY

DR. JOHN WILLIAM MORRIS

Dr. John W. Morris died March 13, 1979. He was born February 6, 1875, in Honeyhill, Arkansas.

Dr. Morris practiced medicine in Arkansas for seventy-six years. He was believed to be the oldest practicing physician in the United States when he retired in 1976 at the age of 101.

He began the practice of medicine in De View in 1900 after receiving his medical degree from the University of Nashville. In 1922, he moved to McCrory. He continued in general practice at McCrory until his retirement.

Dr. Morris' long career included campaigns for screened homes to keep out the malaria mosquitoes and for sanitary improvements in kitchens. He estimated that he had delivered 7,000 babies.

In 1973, Dr. Morris was honored by the Arkansas Medical Society as being one of the three oldest practicing physicians in Arkansas.

Dr. Morris had served as president of the Woodruff County Medical Society. He was a member of the Fifty Year Club of the Arkansas Medical Society. He was a charter member of the McCrory Rotary Club.

Dr. Morris is survived by a daughter, Mrs. Minnie McGregor of McCrory.

DR. HERBERT H. HOLLIS

Dr. Herbert H. Hollis died February 12, 1979. He had been in poor health since September 1978. He was a general practitioner in Forrest City.

Dr. Hollis was born November 20, 1928, in Knoxville, Tennessee. He attended the University of North Alabama before receiving his medical degree from the University of Tennessee Medical School in 1959. He interned at St. Thomas Hospital in Nashville.

Dr. Hollis had been president of the St. Francis County Medical Society since 1966. He was on the staff of Forrest Memorial Hospital.

Dr. Hollis is survived by his wife, Mrs. Trilbe H. Hollis, four daughters and three sons.

DR. WILLIAM H. CALAWAY, JR.

Dr. William H. Calaway, Jr. of Batesville died April 2, 1979. He was a retired family practitioner and was co-founder of the North Arkansas Clinic.

Dr. Calaway received a Bachelors Degree from Arkansas College at Batesville and a Masters Degree from Georgia Tech University. He was graduated from the University of Arkansas School of Medicine in 1938. Dr. Calaway served in the Army Medical Corps during World War II.

Dr. Calaway was a past president of the Independence County Medical Society. He was a member of the Batesville Rotary Club, Alpha Chi Sigma and Phi Beta Pi fraternities. Survivors include his wife, Mrs. Malissa Calaway, two sons, two daughters, and a brother, Dr. Robert L. Calaway of Mulberry.

DR. EWING M. NIXON

Dr. Ewing M. Nixon, a Little Rock orthopaedic surgeon, died April 3, 1979. He was a native of Little Rock.

Dr. Nixon was graduated from the University of Arkansas School of Medicine in 1939, and served his internship at University Hospital. During World War II, he was a major in the Army Medical Corps. He had practiced medicine in Little Rock for almost forty years.

Dr. Nixon was a former Chief of Staff of Baptist Medical Center and was on the staffs of St. Vincent Infirmary and Arkansas Children's Hospital. He was a member of the Arkansas Orthopaedic Society.

Dr. Nixon is survived by his wife, Mrs. Wanda Nixon, a son and two daughters.

DR. ELLIS GARDNER

Dr. Ellis Gardner, an ophthalmologist at Russellville, died April 5, 1979.

Dr. Gardner was born in Russellville on August 22, 1913. He attended the University of Arkansas School of Medicine, receiving his M.D. degree in 1939.

Dr. Gardner served on the staff of St. Mary's Hospital in Russellville and on the consulting staff of St. Anthony's Hospital at Morrilton and Municipal Hospital in Clarksville. He was a fellow of the American College of Surgeons.

Dr. Gardner's survivors include his wife, Mrs. Betty Gardner, and a son, Dr. Guy Forrest Gardner of Little Rock.

DR. NILS C. PEHRSON

A Little Rock pathologist, Dr. Nils C. Pehrson, died April 8, 1979. He was a native of Norway

and came to the United States in 1946.

Dr. Pehrson attended the University of Arkansas and received his medical degree in 1953 from the University of Arkansas School of Medicine.

Dr. Pehrson was in general practice for one year at Perryville before returning to the University of Arkansas School of Medicine for a

pathology residency. He also had training in pathology in Panama. He began practicing pathology in Little Rock in 1962. Dr. Pehrson traveled throughout the state as a pathology consultant for several hospitals.

Dr. Pehrson is survived by his wife, Mrs. Glenda Pehrson, and three daughters.



**ARKANSAS CHAPTER,
AMERICAN COLLEGE OF SURGEONS**

The Arkansas Chapter of the American College of Surgeons will meet June 7-8-9, 1979, at the Red Apple Inn, Eden Isle. Room reservations should be made directly with the Red Apple Inn. Interested physicians are invited to attend. Further information may be obtained from the Chapter Secretary, Dr. Larry Lawson, Post Office Box 1208, Fort Smith, Arkansas 72902. Non-member registration is \$25.

UROLOGIC ONCOLOGY SEMINAR

The University of Texas System Cancer Center, M. D. Anderson Hospital and Tumor Institute, will present the Fourth Annual Urologic Oncology Seminar July 12-14, 1979, at the Shamrock Hilton Hotel in Houston. The program meets criteria for 18 hours Category I credit for AMA Physician's Recognition Award. For additional information, write Department of Urology at M. D. Anderson Hospital, 6723 Bertner, Houston 77030.

* * * *

Recently the Arkansas Hand Club was formed. This is an organization for exchange of information and the furthering of education in hand surgery within the State of Arkansas. Membership is open to all interested, fully trained orthopaedic, plastic or general surgeons, practicing in Arkansas. Further information can be obtained by contacting Edward R. North, M.D., Department of Orthopaedic Surgery, 4301 West Markham, Little Rock, Arkansas 72201.



ANSWER—Electrocardiogram of the Month

DISCUSSION: The ECG shows atrial fibrillation and ST-T changes of a non-specific nature. The "waves" indicated by arrows in V_3 and V_4 are known as Osborn or J-waves and are said to be pathognomonic of hypothermia. The patient was warmed and normalized his ECG. Atrial fibrillation is commonly seen in hypothermic patients and is thought to be secondary to atrial distention. Other changes in ECG's associated with hypothermia include sinus bradycardia, prolongation of the PR and QT intervals, T-wave inversion, and ventricular fibrillation. The origin of the Osborn wave is not known.



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